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# THE ROMANCE OF LABOR



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TORONTO

# THE ROMANCE OF LABOR

*Scenes from Good Novels depicting  
Joy in Work*

BY

FRANCES DOANE TWOMBLY

AN IDLE WOMAN

AND

JOHN COTTON DANA

A BUSY MAN

ILLUSTRATED BY HELEN CLARK PERRY

New York

THE MACMILLAN COMPANY

1924

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## PREFACE

ONE of us is a woman perforce set aside, and looking with eyes of sympathetic envy at the joyous laborers of the world. The other has seen somewhat of many industries and in recent years has had the great pleasure of living close to many books. To both of us it has seemed that many well-intentioned books, laboriously setting forth outlines of world industries, do not give, especially to young readers, adequate impressions of those industries. Young people are to-day more earnestly than ever before seeking for light to guide them to the places in the workshops of the world for which they are best fitted. Surely some of that light can be found in descriptions of those workshops written by writers of insight and imagination, like our novelists. Hence this book. We have tried to gather from writings of our novelists pages which give, not the mere skeletons of the occupations of men but their very souls. In the hands of these novelists many occupations seem as definitely to live as do the men who follow them, and even to have souls, which, like the souls of the men themselves, are touched with romance.

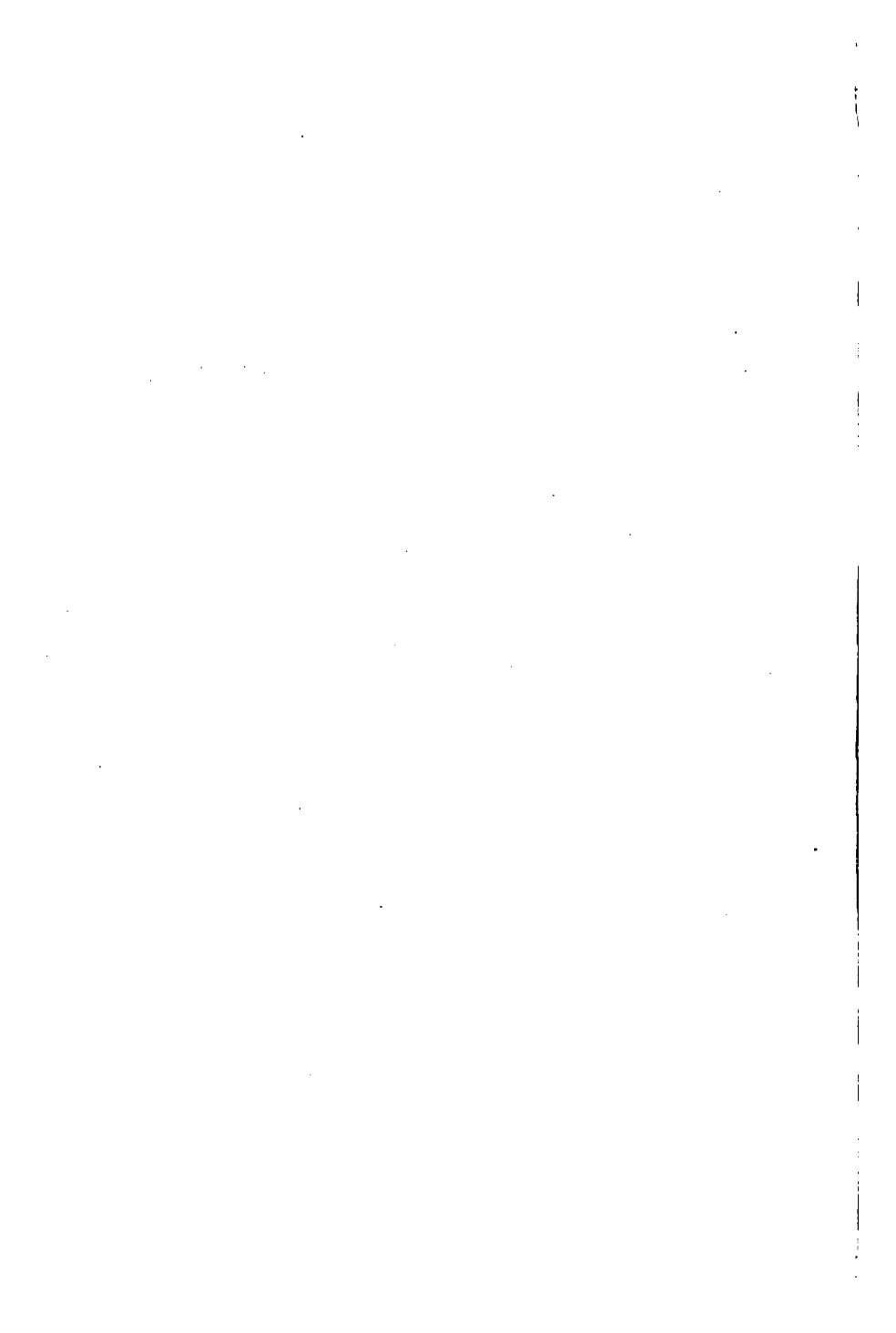


## ACKNOWLEDGMENTS

THE compilers and publishers of this book are grateful to the authors and publishers who have generously allowed the use of excerpts from their publications, and especially for the cordiality with which the permissions were given. The genuineness of our desire to do a service to young people by bringing these wholesome and inspiring accounts of human joy in labor together has met cordial response. One says, "I appreciate your wanting to so use my work"; another, "The scheme appeals to me greatly, and I am delighted to be included in it." Such appreciation of our purpose gives double pleasure.

To these for the content of our book.

For its spirit we give thanks to Louise Connolly, who incited, encouraged, and rewarded our efforts with the same unselfish wisdom that has inspired the thousands of younger workers who have been touched by her spirit.



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## THE ROMANCE OF LABOR





# THE DIVER

*From Caleb West, Master Diver*

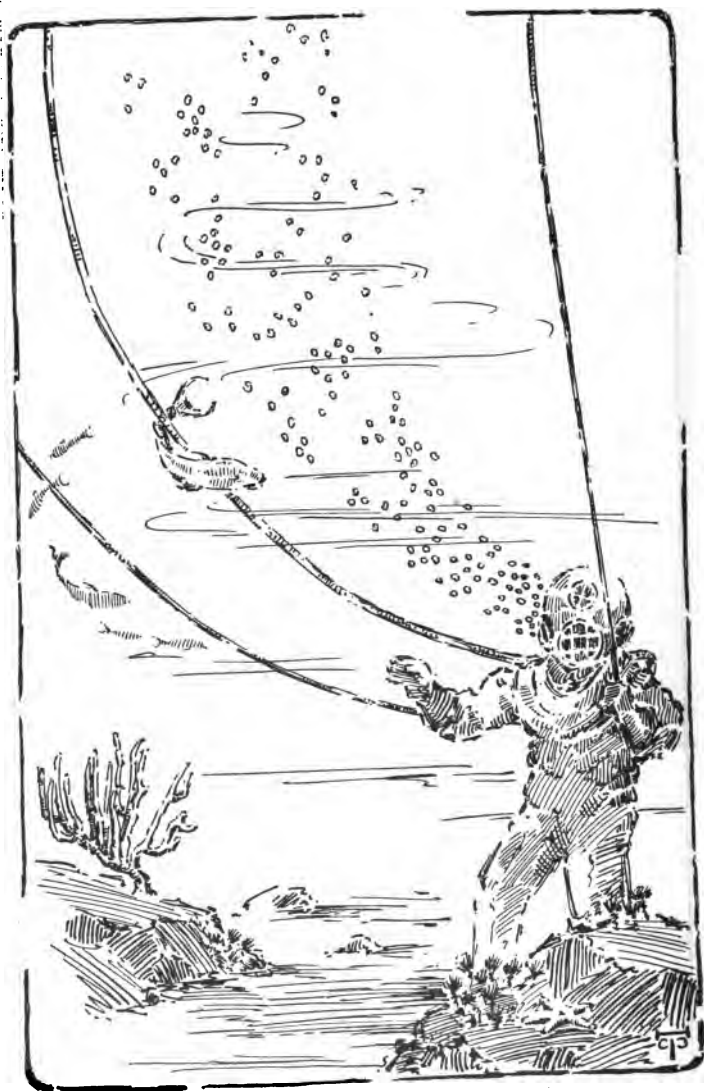
BY

FRANCIS HOPKINSON SMITH

Some one has recently invented an apparatus in which men go to the bottom of the ocean to take photographs of the world under the sea. But *Caleb West, the Master Diver*, went down in his own diver's suit to sit in the waving sea-kelp as he helped lay the foundations of the Race Rock lighthouse. He went down also, to crawl through a train of cars that had fallen through a bridge. Francis Hopkinson Smith has written all about it in his story.

To "Hop" Smith, also, life was not a task but an adventure, and he went forth to meet it with a gallantry that welcomed toil and danger because they were the price of achievement.

*For young people and adults.*



## THE DIVER

"WE'LL put Caleb West in charge of the divin'," said Captain Joe; "ain't no better man'n Caleb in er out a dress. Them enrockments is might' ugly things to set under water, an' I won't trust nobody but Caleb to do it. Bill Lacey, he looks like a skylarkin' chap, but I kin take that out o' him. He kin climb like a cat, an' we want a man like that to shin the derricks. He's tended divers, too, an' he'll do to look after Caleb's life-line an' hose when I can't."

Bill Lacey leaned over the sloop's rail, scanned every bolt in her plates, glanced up at the standing rigging, tried it with his hand as if it were a tight rope, and with a satisfied air said, "Them plates is all right, — it's her b'iler that's a-worryin' me. What do you say, Caleb?" turning to Caleb West, a broad-shouldered, grizzled man in a sou'wester, who was mending a leak in a diving-dress, the odor of the burning cement in a pan beside him mingling with the savory smell of frying pork coming up from the galley.

"Wall, I ain't said, Billy," replied Caleb in a cheery voice, stroking his bushy gray beard. "Them as don't know better keep shet."

There was a loud laugh at the young rigger's expense. Lacey's face hardened under the thrust, while Caleb still smiled, a quaint expression overspreading his features, — one that often came when something pleased him, and which, by its sweetness, showed how little venom lay behind his reproofs.

"Don't you like the sloop, Caleb?" said Sanford, who had been listening. "Don't you think she'll do her work?" he continued, moving a rebellious leg of the rubber dress to sit the closer.

"Well, of course, sir, I ain't knowed 'er long 'nough to swear by yit. She's fittin' for loadin' 'em on land, maybe, but she may have some trouble gittin' rid of 'em at the Ledge," and the master diver bent over the pan, stirring the boiling cement with his sheath-knife, the rubber suit sprawled out over his knees, the awkward, stiff, empty legs and arms of the dress flopping about as he patched its many leaks. Then he added with a quaint smile, "But if Cap'n Joe says she's all right, ye can pin to her."


Sanford moved a little closer to Caleb, holding the pan of cement for him, and watching him at work. He had known him for years as a fearless diver of marvellous pluck and endurance; one capable of working seven consecutive hours under water. When an English bark had run on top of

Big Spindle Reef and backed off into one hundred and ten feet of water, the captain and six of the crew were saved, but the captain's wife, helpless in the cabin, had been drowned. Caleb had gone below, cleared away the broken deck that pinned her down, and had brought her up in his arms. His helmet was spattered inside with the blood that trickled from his ears, owing to the enormous pressure of the sea. This had been not a twelve-month since.

The constant facing of dangers had made of the diver a quiet, reticent man. There was, too, a gentleness and restful patience about him that always appealed to Sanford, and next to Captain Joe he was the one man of the working force whom he trusted most.

Caleb was not an old man, if the possession of vigor and energy meant anything. His cheeks had the rosy hue of perfect health, and his step was lighter and more agile than that of many men half his years. Only his beard was gray. Yet he was called by his shipmates old, for in the hard working world in which he lived none but the earlier years of a man's life counted as youth.

His cabin, a small, two-story affair, bought with the money he had saved during his fifteen years on the Lightship, lay a short distance up the shore above that of Captain Joe, and in plain sight of the *Screamer*.



"Come, men!" called Captain Joe in a commanding voice. "Pull yourselves together. . . . Bill Lacey, lower away that hook and git them chains ready. . . . Fire up, Cap'n Brandt, and give 'er every pound o' steam she'll carry. . . . Here, — one or two of ye, run this 'ere line ashore. Drop that divin'-suit, Caleb; this ain't no time to patch things."

These orders were volleyed at the men as he stepped from the wharf to the sloop, each man springing to his place with alacrity seldom seen among men of other crews.

The sloop now moved slowly out of the harbor toward the Ledge. When the open harbor was reached, the men overhauled the boom-tackle, getting ready for the real work of the day. Bill Lacey and Caleb West lifted the air-pump from its case, and oiled the plunger. Caleb was to dive that day himself, — work like this required an experienced hand, — and find a bed for these first three stones as they were lowered under water. Lacey was to tend the life-line. Soon the Ledge itself loomed up. The concrete men were evidently busy, for the white steam from the mixers rose straight into the still air.

The tug continued on her course for half a mile, steered closer, the sloop following, and gained the eddy of the Ledge out of the racing tide. Four men

from a platform now sprang into a whaleboat and pulled out to meet the sloop, carrying one end of a heavy hawser which was being paid out by the men on the Ledge. The hawser was made fast to the sloop's cleats and hauled tight. Out-board hawsers were run by the crew of the whaleboat to the floating anchor-buoys, to keep the sloop off the stone-pile when the enrockment blocks were being swung clear of her sides.

Caleb and Lacey began at once to overhaul the diving-gear. The air-pump was set close to the sloop's rail; and a short ladder was lashed to her side, to enable the diver to reach the water easily. The air-hose and life-lines were then uncoiled.

Caleb threw off his coat and trousers, that he might move the more freely in his diving-dress, and with Lonny Bowles's assistance twisted himself into his rubber-suit, — body, arms, and legs being made of one piece of air-tight and water-tight rubber cloth.

By the time the sloop had been securely moored, and the boom-tackle made ready to lift the stone, Caleb stood on the ladder completely equipped, except for his copper helmet, the last thing done to a diver before he sinks under water. Captain Joe always adjusted Caleb's himself. On Caleb's breast and between his shoulders hung two lead plates weighing twenty-five pounds each, and on his feet

were two iron-shod shoes of equal weight. These were needed as ballast, to overbalance the buoyancy of his inflated dress, and enable him to sink or rise at his pleasure. Firmly tied to his wrist was a stout cord, — his life-line, — and attached to the back of the copper helmet was a long rubber hose, through which a constant stream of fresh air was to be pumped inside his helmet and suit.

In addition to these necessary appointments there was hung over one shoulder a canvas haversack, containing a small cord, a chisel, a water-compass, and a sheath-knife. The sheath-knife is the last desperate resource of the diver when his air-hose becomes tangled or clogged, his signals are misunderstood, and he must either cut his hose in the effort to free himself and reach the surface, or suffocate where he is.

Captain Joe adjusted the copper helmet, and stood with Caleb's glass face-plate in his hand, thus leaving his helmet open for a final order in his ear, before he lowered him overboard. The cogs of the *Screamer's* drum began turning, followed by the same creaking and snapping of manilla and straining boom that had been heard when she was loaded.

With the starting of the hoisting-engine the steam began to hiss through the safety-valve, and the bow-lines of the sloop straightened out like strands of steel. Then there came a slight, stag-

gering movement as she adjusted herself to the shifting weight. Without a sound, the stone rose from the deck, cleared the rail, and hung over the sea.


"Lower away," said Captain Joe in the same tone he would have used in asking for butter, as he turned the screw on Caleb's face-plate, shutting out the fresh air, and giving the diver only pumped air to breathe.

The stone sank slowly into the sea, the dust and dirt of its long outdoor storage discoloring the clear water.

"Hold her," continued Captain Joe, his hand still on Caleb's face-plate, as he stood erect on the ladder. "Stand by, Billy. Go on with that pump, men, — give him plenty of air."

Two men began turning the handles of the pump. Caleb's dress filled out like a balloon; Lacey took his place near the small ladder, the other end of Caleb's life-line having been made fast to his wrist, and the diver sank slowly from sight, his hammer in his hand, the air-bubbles from his exhaust valve marking his downward course.

As Caleb sank, he hugged his arms close to his body, pressed his knees together, forcing the surplus air from his dress, and dropped rapidly toward the bottom. The thick lead soles of his shoes kept his feet down and his head up, and the breast-plates steadied him.



At the depth of twenty feet he touched the tops of the sea-kelp growing on the rocks below,—he could feel the long tongues of leaves scraping his legs. Then, as he sank deeper, his shoes struck an outlying boulder. Caleb pushed himself off, floated around it, measured it with his arms, and settled to the gravel. He was now between the outlying boulder and the Ledge. Here he raised himself erect on his feet and looked about; the gravel beneath him was white and spangled with starfish; little crabs lay motionless, or scuttled away at his crunching tread; the sides of the isolated boulder were smooth and clean, the top being covered with waving kelp. In the dim, greenish light this boulder looked like a weird head, — a kind of submarine Medusa, with her hair streaming upward. The jagged rock-pile next it, its top also covered with kelp, resembled a hill of purple and brown corn swaying in the ceaseless current.


Caleb thrust his hand into his haversack, grasped his long knife, slashed at the kelp of the rock pile to see the bottom stones the clearer, and sent a quick signal of "All right — lower away!" through the life-line, to Lacey, who stood on the sloop's deck above him.

Almost instantly a huge square green shadow edged with a brilliant iridescent light sank down towards him, growing larger and larger in its descent.

Caleb peered upward through his face-plate, followed the course of the stone, and jerked a second signal to Lacey's wrist. This signal was repeated in words by Lacey to Captain Brandt, who held the throttle, and the shadowy stone was stopped within three feet of the gravel bottom. Here it swayed slowly, half turned, and touched the boulder.

Caleb watched the stone carefully until it was perfectly still, crept along, swimming with one hand, and measured carefully with his eye the distance between the boulder and the Ledge. Then he sent a quick signal of "Lower — all gone," up to Lacey's wrist. The great stone dropped a chain's link; slid halfway the boulder, scraping the kelp in its course; careened, and hung over the gravel with one end tilted on a point of the rocky ledge. As it hung suspended, its lower end buried itself in the gravel near the boulder, while the upper lay aslant up the slope of the rock-covered ledge.

Caleb again swam carefully around the stone, opened his arms, and inflating his dress rose five or six feet through the green water, floated over the huge stone, and grasping with his bare hand the lowering chain by which the stone hung, tested its strain. The chain was as rigid as a bar of steel. This showed that the stone was not fully grounded, and therefore dangerous, being likely to slide off



at any moment. The diver now sent a telegram of short and long jerks aloft, asking for a crowbar; hooked his legs around the lowering chain and pressed his copper helmet to the chain to listen to Captain Joe's answer. A series of dull thuds, long and short, struck by a hammer above—a means of communication often possible when the depth of water is not great—told him that the crowbar he had asked for would be sent down at once. While he waited motionless, a blackfish pressed his nose to the glass of his face-plate, and scurried off to tell his fellows living in the kelp how strange a thing he had seen that day.

A quick jerk from Lacey, and the point of the crowbar dangled over Caleb's head. In an instant, to prevent his losing it in the kelp, he had lashed another and smaller cord about his middle, and with the bar firmly in his hand laid himself flat on the stone. The diver now examined carefully the points of contact between the boulder and the hanging stone, inserted one end of the bar under its edge, sent a warning signal above, braced both feet against the lowering chain, threw his whole strength on the bar, and gave a quick, sharp pull. The next instant the chain tightened; the bar, released from the strain, bounded from his hand; there was a headlong surge of the huge shadowy mass through the waving kelp, and the great block

slipped into its place, stirring up the bottom silt in a great cloud of water-dust.

The first stone of the system of enrockment had been bedded !

Caleb clung with both hands to the lowering chain, waited until the water cleared, knocked out the Lewis pin that held the S-hook, thus freeing the chain, and signalled "All clear — hoist." Then he hauled the crowbar towards him by the cord, signalled for the next stone, moved away from the reach of falling bodies, and sank into a bed of seaweed as comfortably as if it had been a sofa-cushion.

These breathing spells rest the lungs of a diver and lighten his work. Being at rest he can manage his dress the better, inflating it so that he is able to get his air with greater ease and regularity. The relief is sometimes so soothing that in the long waits the droning of the air-valve will lull the diver into a sleep, from which he is suddenly awakened by a quick jerk on his wrist. Many divers, while waiting for the movements of those above, play with the fish, watch the crabs, or rake over the gravel in search of the thousand and one things that are lost overboard and that everybody hopes to find on the bottom of the sea.

Caleb was too expert a diver to allow himself to go to sleep. He sat quietly awaiting his call. Once a lobster moved slowly up and nipped his red



fingers with its claw, thinking them some tidbit previously unknown. At another time two tom-cods came sailing past, side by side, flapped their tails on his helmet, and scampered off. But Caleb, sitting comfortably on his sofa-cushion of seaweed thirty feet under water, paid little heed to outside things.

Taken from *Caleb West, Master Diver*, by Francis Hopkinson Smith, published by Houghton Mifflin Company.



# BUILDING THE LIGHTHOUSE

*From Caleb West, Master Diver*

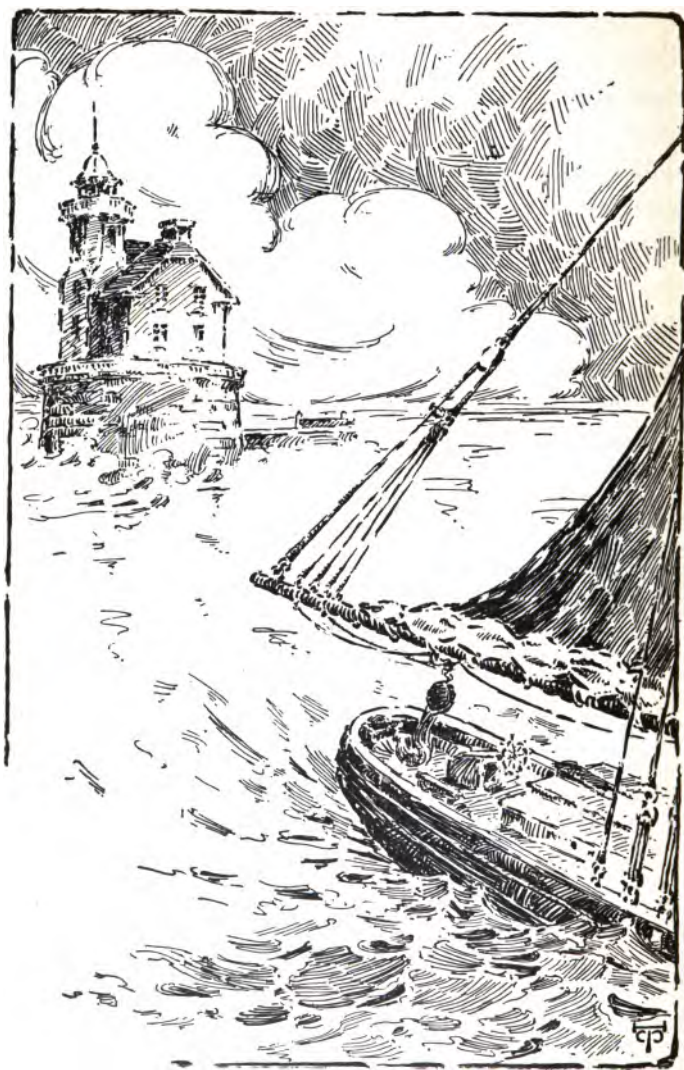
BY

FRANCIS HOPKINSON SMITH

"Captain Joe" is a Yankee skipper, tough, sturdy, tender-eyed, and fearless. He is really Captain Tom Scott, he who helped Hopkinson Smith build the Race Rock Lighthouse in Long Island Sound. Mr. Smith tells how the work was done in his story, *Caleb West, Master Diver*.

Though Francis Hopkinson Smith was of Southern parentage, his early struggles were in New Jersey and New York, where he began life in the shops with his dinner pail like other workmen. Among other things he built a railroad in Long Island; the sea-wall protecting Governor's Island; the foundation and pedestal of the Statue of Liberty, New York Harbor; and also the Race Rock Lighthouse. As an essayist, novelist, and painter, he has written and illustrated many beautiful stories.

*For young people and adults.*



## BUILDING THE LIGHTHOUSE

At the sun's first gleam, Henry Sanford had waked with a joyous start. Young, alert, full of health and courage as he was, the touch of its rays never came too early for him. The sunshine fell across a drawing-table covered with the plans of the lighthouse he was then building, illumined a desk piled high with correspondence, and patterned a wall upon which were hung photographs and sketches of the various structures which had marked the progress of his engineering career.

But it was toward a telegram lying open on his desk that Sanford turned. He took it in his hand and read it with the quiet satisfaction of one who knows by heart every line he studies. It was headed Keyport, and ran as follows:—

*To Henry Sanford, C. E., Washington Square,  
New York.*

*Cape Anne sloop arrived and is a corker. Will  
be at your uptown office in the morning.*

*Joseph Bell.*

“Dear old Captain Joe, he's found her at last,”  
he said to himself, and laughed aloud.

For months Captain Joe had been in search of a sloop of peculiar construction, — one of so light a draught that she could work in a rolling surf, and yet so stanch that she could sustain the strain of a derrick-boom rigged to her mast. Without such a sloop the building of the lighthouse Sanford was then constructing for the government on Shark Ledge, lying eight miles from Keyport, and breasting a tide running six miles an hour, could not go on. With such a sloop its early completion was assured.

The specifications for this lighthouse provided that the island which formed its base — an artificial one made by dumping rough stones over the sunken rock known as Shark's Ledge — should be protected not only from sea action, but from the thrust of floating ice. This Sanford was to accomplish by paving its under-water slopes with huge granite blocks, to form an enrockment, — each block to be bedded by a diver.

The engineer-in-chief of the Lighthouse Board had expressed grave doubts, questioning whether a stone weighing twelve tons could be swung overboard, as suggested by Sanford, from the deck of a vessel and lowered to a diver while the boat was moored in a six mile current. Sanford's working plans had finally been approved, however. He had lacked only a sloop to carry them out. This sloop Captain Joe had now found.

At the first sound of his heavy step in the hall outside, Sanford sprang from his desk, and threw the door wide open to welcome the big, burly fellow, — comrade and friend for years, as well as foreman and assistant engineer on his force.

"Are you sure she'll handle the stones?" were the first words he addressed to the captain, — there were no formalities between these men, — "nothing but a ten-horse engine, remember, will lift them from the dock. What's the sloop's beam?"

"Thirty foot over all, an' she's stiff as a church," answered Captain Joe, all out of breath with his run up the stairs, — pushing his Derby hat back from his forehead as he spoke. "An' her cap'n ain't no slouch, nuther. I see him yesterday 'fore I come down. Looks ef he hed th' right stuff in him. Says he ain't afeard o' th' Ledge, an' don't mind layin' her broadside on, even ef she does git a leetle mite scraped."

"I'm glad you like her skipper," Sanford said. "I see his name is Brandt, and the sloop's name is the *Screamer*. Hope she'll live up to her name. Do you think the shallow water round the Ledge will scare him?"

Captain Joe did not answer Sanford's question at once. As he leaned over the chart the sunlight played about his face and brought into stronger

relief the few gray hairs which silvered the short brown curls crisped about his neck and temples. These hairs betrayed the only change seen in him since the memorable winter's day when he saved the lives of the passengers on the sinking ferry-boat near Hoboken by calking with his own body the gash left in her side by a colliding tug. He was still the same broad-as-he-was-long old sea-dog; tough, sturdy, tender-eyed, and fearless. His teeth were as white, his mouth was as firm, his jaw as strong and determined.

The captain placed his horn-tipped finger on a dot marked "Shark's Ledge Spindle," obliterating in the act some forty miles of sea-space; repeated to himself in a low voice, "Six fathoms — four — one and a half — hum, 'tain't nothin'; that Cape Ann sloop can do it;" and then suddenly remembering Sanford's question, he answered, with quick lifting of his head and with a cheery laugh, "Skeer him? Wait till ye see him, sir. And he won't make no protest, nuther. He ain't that kind."

The sun was an hour high when Sanford arrived at Keyport and turned quickly toward the road leading from the station to Captain Joe's cottage. Below him lay Keyport village, built about a rocky half-moon of a harbor, its old wharves piled high with rotting oil barrels and flanked by empty warehouses, behind which crouched low, gray-roofed

cabins, squatting in a tangle of streets, with here and there a white church spire tipped with a restless weather-vane. At his feet lay the brimming harbor itself, dotted with motionless yachts and various fishing-craft, — the click of the rowlocks pulsating in the breathless morning air.

On the near point of the half-moon stood Keyport Light, built of brick, but painted snow-white with a black cigar band around its middle, its top surmounted by a copper lantern. On the far point of the moon, stretched the sea-meadows, and between these two points, almost athwart the mouth of the harbor, like a huge motionless whale, lay Crotch Island, its backbone knotted with summer cottages. Beyond the island away out under the white glare of the risen sun could be seen a speck of purplish-gray fringed with bright splashes of spray glinting in the dazzling light. This was Shark's Ledge.

As Sanford looked toward the site of the new Light a strange sensation came over him. There lay the work on which his reputation would rest and by which he would hereafter be judged. He walked down the slope that led to the long dock fronting the captain's cottage. As he drew nearer he saw that the *Screamer* had been moored between the captain's dock and the great granite wharf, which was piled high with enormous cubes of stone, each as big as two pianos.

On her forward deck was bolted a hoisting-engine, and thrust up through the hatch of the fore-castle was the smoke-stack of the boiler, already puffing trial feathers of white steam into the morning air. She had, too, the heavy boom and stout mast used as a derrick. Captain Joe had evidently seen no reason to change his mind about her, for he was at the moment on her after-deck, overhauling a heavy coil of manilla rope, and reeving it in the block himself, the men standing by to catch the end of the line.

These men had enlisted for a war with winds and storms and changing seas, and victory meant something more to them than pay once a month and plum duff once a week. It meant hours of battling with the sea, of tugging at the lines, waist-deep in the boiling surf that rolled in from Montauk. It meant constant, unceasing vigilance day and night, in order that some exposed site necessary for a bed-stone might be captured and held before a southeaster could wreck it, and thus a vantage-point be lost in the laying of the masonry.

Each man took his share of wet and cold and exposure without grumbling. The severity of the work was never resented. It was only against their common enemies, the winds and the seas, that murmurs were heard. "Drat that wind!" one would say, "here she's a-haulin' to the east'rd

agin, an' we ain't got them j'int's in the masonry p'inted." Sanford liked these men. He was always at home with them. He loved their courage, their grit, their loyalty to one another and to the work itself. His cheery "Good morning," as he stepped aboard, was as cheerily answered, but no other demonstration took place.

Close association with Captain Joe inspired a peculiar confidence and loyalty not only among his own men, but in all the others who heard his voice.

The sloop was now lying alongside the wharf, with beam and stern lines made fast to the out-lying water-spiles to steady her. When the tackle was shaken clear, the boom was lowered to the proper angle; the heavy chain terminated in an enormous S-hook, which hung directly over the centre of one of the big enrockment blocks.

Captain Joe moved down the dock and adjusted with his own hands the steel "Lewis" that was to be driven into the big trial stone. Important details he never left to others. If this Lewis should slip, with the stone suspended over the sloop's deck, the huge block would crash through her timbers, sinking her instantly.

The *Screamer's* captain was at the throttle, watching the steadily rising steam-gauge.

"Give 'er a turn and take up the slack!" shouted Captain Joe.

"Ay, ay, sir!" answered the skipper quickly, as the cogs of the hoisting-engine began to move, winding all the loose slackened "fall" around the drum, until it straightened out like a telegraph wire.

"What's she carryin' now, Cap'n Bob?" again shouted Captain Joe.

"Seventy-six pounds, sir."

"Give 'er time — don't push 'er."

A crowd began to gather on the dock: fishermen and workmen on their way to the village, idlers along the shore, and others. They all understood that the trial of the sloop was to be made this morning, and great interest was felt. The huge stones had rested all winter on this wharf, and had been discussed and rediscussed until each one outweighed the Pyramids. Loading such pieces on board a vessel like the *Screamer* had never been done in Keyport before.

The needle of the gauge on the sloop's boiler revolved slowly until it registered ninety pounds. Little puffs of blue vaporless steam hissed from the safety-valve. The boiler was getting ready to do its duty.

Captain Joe looked aloft, so that the lift would be plumb, sprang upon the sloop's deck, scrutinized the steam-gauge, saw that the rope was evenly wound on the drum, emptied an oil-can into the

sunken wooden saddle in which the butt of the boom rested, followed with his eye every foot of the manilla fall from the drum through the double blocks to the chain hanging over the big stone, called to the people on the dock to get out of harm's way, saw that every man was in his place, and shouted the order, clear and sharp, —

“Go ahead !”

The cogs of the drum of the hoisting-engine spun around until the great weight began to tell ; then the strokes of the steam-pistons slowed down. The outboard mooring-lines were now tight as standing rigging. The butt of the boom in the sunken saddle was creaking as it turned, a pungent odor from the friction-heated oil filling the air. The strain increased, and the sloop careened toward the wharf until her bilge struck the water, drawing taut as bars of steel her outboard shrouds. Ominous clicks came from the new manilla as its twists were straightened out.

Captain Bob Brandt still stood by the throttle, one of his crew firing, — sometimes with refuse cotton waste soaked in kerosene. He was watching every part of his sloop then under strain to see how she stood the test.

The slow movement of the pistons continued.

The strain on the outboard shroud became intense. A dead silence prevailed, broken only by

the clicking fall and the creak of the roller blocks. Twice the safety-valve blew a hoarse note of warning.

Slowly, inch by inch, the sloop settled in the water, stopped suddenly, and quivered her entire length. Another turn of the drum on her deck and the huge stone canted a point, slid the width of a dock plank, and with a hoarse, scraping sound turned half round and swung clear of the wharf!

A cheer went up from the motley crowd on the dock.

Not a word escaped the men at work. The worst was yet to come.

The swinging stone must yet be lowered on deck.

"Tighten up that guy," said Captain Joe quietly, between his teeth, never taking his eyes from the stone; his hand meanwhile on the fall, to test its strain.

Bill Lacey and Caleb ran to the end of the dock, whipped one end of a line around a mooring-post, and with their knees bent to the ground held on with all their strength. The other end of the guy was fastened to the steel S-hook that held the Lewis now securely in the stone.

"Easy — ea-s-y!" said Captain Joe, a momentary shadow of anxiety on his face. The guy held by Caleb and Lacey gradually slackened. The great stone, now free to swing clear, moved slowly

in mid-air over the edge of the wharf, passed above the water, cleared the rail of the sloop, and settled on her deck as gently as a grounding balloon.

The cheer that broke from all hands brought the fishwives to their porches.

Hardly had the men ceased cheering when the boom was swung back, another huge stone was lifted from the wharf, and loaded aboard the sloop. A third followed, was lowered upon rollers on the deck, and warped amidships, to trim the boat. The mooring-lines were cast off, and the sloop's sail partly hoisted for better steering, and a nervous, sputtering little tug tightened a tow-line over the *Screamer's* bow. They moved slowly out of the harbor toward the Ledge.

When the open harbor was reached, the men overhauled the boom-tackle, getting ready for the real work of the day. Bill Lacey and Caleb West lifted the air-pump from its case, and oiled the plunger. Caleb was to dive that day himself, — work like this required an experienced hand, — and find a bed for these first three stones as they were lowered under water. Lacey was to tend the life-line.

Soon the Ledge itself loomed up. If Crotch Island was like the back of a motionless whale, Shark's Ledge was like that of a turtle, — a turtle say one hundred and fifty feet long by a hundred

wide, lying in a moving sea, and always fringed by a ruffling of surf curls, or swept by great waves that rolled in from Montauk. No landing could ever be made here except in the eddy formed by the turtle itself, and then only in the stillest weather.

The shell of this rock-incrusted turtle had been formed by dumping on the original Ledge, and completely covering it, thousands of tons of rough stone, each piece as big as a cart-body. Upon this stony shell, which rose above high-water mark, a wooden platform had been erected for the proper storage of gravel, sand, barrels of cement, hoisting-engines, concrete mixers, tools, and a shanty for the men. It was down by the turtle's side — down below the slop of the surf — that the big enrockment blocks were to be placed, one on the other, their sides touching close as those on a street pavement. The lowest stone of all was to be laid on the bottom of the sea in thirty feet of water; the top one was to be placed where the upper edges would be thrust above its splash. In this way the loose rough stones of the turtle's shell would have an even covering and the finished structure be protected from the crush of floating ice and the fury of winter gales.

By a change of plans the year before, a deep hole nearly sixty feet in diameter had been made in the back of this turtle by lifting out these rough stones. This hole was now being filled with concrete up to

the low-water level and retained in form by circular iron bands. On top of this enormous artificial bedstone was to be placed the tower of the lighthouse itself, constructed of dressed stone, many of the single pieces to be larger than those now on the *Screamer's* deck. The four great derrick-masts with "twenty-inch butts" which had been ordered by telegraph were to be used to place these dressed stones in position.

The situation was more than usually exposed. The nearest land to the Ledge was Crotch Island, two miles away, while to the east stretched the wide sea, hungry for fresh victims, and losing no chance to worst the men on the Ledge. For two years it had fought the Captain and his men without avail. The Old Man of the Sea hates the warning voice of the fog-horn and the cheery light in the tall tower — they rob him of his prey.

A quarryman talked about the Ledge, and what a rotten season it had been, — nothing but south-easters since the work opened; last week the men only got three days' work. It was terrible rough on the boss paying out wages to the men and getting so little back; but it wasn't the men's fault, — they were standing by day and night, catching the lulls when they came; they'd make it up before the season was over; he and Caleb West had been up all the night before getting ready for the big

derricks that Captain Joe was going to set up as soon as they were ready.

Sanford was saying, "What we are doing at the Ledge requires mental pluck and brute grit, — nothing else. Scientific engineering won't help us a bit. At Minot's Ledge, — the light off Boston, — they had to chisel down a submerged rock into steps, to get a footing for the tower. But three or four men could work at a time, and then only at dead low water. They got only one hundred and thirty hours' work the first year. The whole Atlantic rolled in on top of them, and there was no shelter from the wind. Until they got the bottom courses of their tower bolted to the steps they had cut in the rock, they had no footing at all, and had to do their work from a small boat. Our artificial island helps us immensely; we have something to stand on. And it was even worse at Tillamook Rock, on the Pacific coast. There the men were landed on a precipitous crag sticking up out of the sea, from breeches buoys slung to the masthead of a vessel. For weeks at a time the sea was so rough that no one could reach them. They were given up for dead once. All that time they were lying in canvas tents lashed down to the sides of the crag to keep them from being blown into rags. All they had to eat and drink for days was raw salt pork and the rain-water they caught

from the tent covers. And yet those fellows stuck to it day and night until they had blasted off a place large enough to put a shanty on. Every bit of material for that lighthouse, except in the stillest weather, was landed from the vessel that brought it, by a line rigged from the masthead to the top of the crag; and all this time she was thrashing around under steam, keeping as close to the edge as she dared. Oh, there is something stunning in such a battle with the elements."

\* \* \* \* \*

An accident to the *Screamer* had delayed work at the Ledge a few days, and renewed efforts had been made by Sanford and Captain Joe to complete to low-water mark the huge concrete disk, forming a bedstone sixty feet in diameter and twelve feet thick, on which the superstructure was to rest. This had been accomplished after three weeks of work, and the men stood in readiness to begin the masonry of the superstructure so soon as the four great derricks required in lifting and setting the cut stone of the masonry could be erected.

These derricks, with their winches and chain guys, were now lying on the jagged rocks of the Ledge, where they had been landed the day before by Captain Brandt with the boom of the *Screamer*. They were designed to lift and set the cut-stone masonry

of the superstructure, — the top course at a height of fifty-eight feet above the water-line. These stones weighed from six to thirteen tons each.

With the beginning of the dog-days the weather had changed. Captain Joe watched the changing sky where hour by hour were placarded the bulletins of the impending outbreak, and redoubled his efforts on the lines of the watch-tackles at which the men were tugging, pulling the derricks to their places.

By ten o'clock on the 15th of August, three of the four derricks, their tops connected by heavy wire rope, had been stepped in their sockets and raised erect, and their seaward guys had been made fast. By noon, the last derrick — the fourth leg of the chair, as it were — was also nearly perpendicular, the men tugging ten deep on the line of the watch-tackles. This derrick, being the last of the whole system and the most difficult to handle, was under the immediate charge of Captain Joe. On account of its position, which necessitated the bearing of its own strain and that of the other three derricks as well, its outboard seaward guy was as heavy as that of a ship's anchor-chain. The final drawing taut of this chain, some sixty feet in length, stretching, as did the smaller ones, from the top of the derrick-mast down to the enrockment block, and the fastening of its sea end in the block, would

not only complete the system of the four erected derricks, but would make them permanent and strong enough to resist either sea action or any weight that they might be required to lift. The failure to secure this chain guy into the anchoring enrockment block, or any sudden break in the other guys, would result not only in instantly toppling over the fourth derrick itself, but in dragging the three erect derricks with it. This might mean, too, the crushing to death of some of the men; for the slimy, ooze-covered rocks and concrete disk on which they had to stand and work made hurried escape impossible.

To insure an easier connection between this last chain and the enrockment block, Caleb had fastened below water, into the Lewis hole of the block, a long iron hook. Captain Joe's problem, which he was about to solve, was to catch this hook into a steel ring which was attached to the end of the chain guy. The drawing together of this hook and ring was to be done by means of a watch-tackle, which tightened the chain guy inch by inch, the gang of men standing in line while Captain Joe, ring in hand, waited to slip it into the hook.

The steady rhythmic movement of the men, ankle-deep in the water, swaying in unison, close-stepped, tugging at the tackle-line, like a file of soldiers, keeping time to Lonny Bowles's "Heave

ho," had brought the hook and ring within six feet of each other, when the foot of one of the men slipped on the slimy ooze and tripped the man next him. In an instant the whole gang were floundering among the rocks and in the water, the big fourth derrick swaying uneasily, like a tree that was doomed.

"Every men o' ye as ye were!" shouted Captain Joe. While he was shouting he had twisted a safety-line around a projecting rock to hold the strain until the men could regain their feet. The great derrick tottered for a moment, steadied itself like a drunken man, and remained still. The other three quivered, their top guys sagging loose.

"Now make fast, an' two 'r three of ye come here!" cried the captain again. In the easing of the strain caused by the slipping of the men, the six feet of space between hook and ring had gone back to ten.

Two men scrambled like huge crabs over the slippery rocks, and relieved Captain Joe of the end of the safety-line. The others stood firm and held taut the tug-lines of the watch-tackle. The slow, rhythmic movement of the gang to the steady "Heave ho" began again. The slack of the tackle was taken up, and the ten feet between the hook and ring were reduced to five. Half an hour more, and the four great derricks would be anchored safe against any contingency.

The strain on the whole system became once more intense. The seaward guy of the opposite derrick — the one across the concrete disk — shook ominously under the enormous tension. Loud creaks could be heard as the links of the chain untwisted and the derricks turned on their rusty pintles.

Then a sound like a pistol-shot rang out clear and sharp.

Before the men could ease the strain one of the seaward guys that fastened the top of its derrick to its enrockment-block anchorage snapped with a springing jerk, writhed like a snake in the air, and fell in a swirl across the disk of the concrete, barely missing the men.

The gang at the tug-line turned their heads, and the bravest of them grew pale. The opposite derrick, fifty feet away, was held upright by but a single safety-rope. If this should break, the whole system of four derricks, with its tons of chain guys and wire rope, would be down upon their heads.

There was but one chance left, to steady the imperiled derrick with a temporary guy strong enough to stand the strain.

"Stand by on that watch-tackle, every man o' ye! Don't one o' ye move!" shouted Captain Joe in a voice that drowned all other sounds.

The men sprang into line and stood in dogged determination.

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"Take a man, Caleb, as quick as God'll let ye, an' run a wire guy out on that derrick." The order was given in a low voice that showed the gravity of the situation.

Caleb and Lonny Bowles stepped from the line, leaped over the slippery rocks, splashed across the concrete disk, now a shallow lake with the rising tide, and picked up another tackle as they plunged along to where Sanford stood, the water over his rubber boots. They dragged a new guy towards the imperiled derrick.

Then came a sudden jerk; the opposite derrick trembled, staggered for a moment, and swooped through the air towards the men, dragging in its fall the two side derricks with all their chains and guys.

"Down between the rocks, heads under, every man o' ye!" shouted the captain.

The captain sprang last, crouching up to his neck in the sea, his head below the jagged points of two rough stones, just as the huge fourth derrick, under which he had stood, lunged wildly, and with a ringing blow struck a stone within three feet of his head,—the great anchor-chain guy twisting like a cobra over the slimy rocks.

When all was still Sanford's anxious face rose cautiously from behind a protecting rock near where the first derrick had struck. There came a cheer of

safety from Caleb and Bowles, answered by another from Captain Joe, and Sanford and the men crawled out of their holes, and clambered upon the rocks, the water dripping from their clothing.

Not a man had been hurt!


"That's too bad, Mr. Sanford, but we can't help it," said Captain Joe in his customary voice. "All hands, now, on these derricks. We got 'er git 'em up, boys, if it takes all night."

Again the men sprang to his orders. For five consecutive hours they worked without a pause.

Slowly and surely the whole system, beginning with the two side derricks, whose guys still held their anchorage, was raised upright, Sanford still watching the opposite derrick, a new outward guy having replaced the broken one.

It was six o'clock when the four derricks were again fairly erect. The same gang was tugging at the watch-tackle, and the distance between the hook and the ring was once more reduced to five feet. The hook gained inch by inch towards its anchorage. Captain Joe's eyes gleamed with suppressed satisfaction.

All this time the tide had been rising. Most of the rough, above-water rocks were submerged, and fully three feet of water washed over the concrete disk. The wind too had changed to the east. With it came a long, rolling swell that broke on the



eastern derrick, — the fourth one, the key-note of the system, the one Captain Joe and the men were tightening up.

Suddenly a window was opened somewhere in the heavens, and a blast of wet air heaped the sea into white caps, and sent it bowling along towards the Ledge and the *Screamer* lying in the eddy.

Captain Joe, as he stood with the hook in his hand, watched the sea's carefully planned attack, and calculated how many minutes were left before it would smother the Ledge in a froth and stop all work. But no shade of anxiety betrayed him.

The steady movement of the tugging men continued, Lonny's "Heave ho" ringing out cheerily in perfect time. Four of the gang, for better foothold, stood on the concrete, their feet braced to the iron mould band, the water up to their pockets. The others clung with their feet to the slippery rocks.

The hook was now within two feet of the steel ring, Captain Joe standing on a rock at a lower level than the others, nearly waist-deep in the sea, getting ready for the final clinch.


Sanford, from his rock, had also been watching the sea. As he scanned the horizon, his quick eye caught to the eastward a huge roller pushed ahead of the increasing wind, piling it higher as it swept on.

"Look out for that sea, Captain Joe! Hold fast, men, — hold fast!" he shouted.

Hardly had his voice ceased, when a huge green curler threw itself headlong on the Ledge, wetting the men to their arm-pits. Captain Joe had raised his eyes for an instant, grasped the chain as a brace, and taken its full force on his broad back. When his head emerged, his cap was gone, his shirt clung to the muscles of his big chest, and the water streamed from his hair and mouth.

Shaking his head like a big water-dog, he waved his hand, with a laugh, to Sanford, volleyed out another rattling fire of orders, and then held on with the clutch of a devil-fish as the next green roller raced over him. It made no more impression upon him than if he had been an off-shore buoy.

The fight now lay between the rising sea and the men tugging at the watch-tackle. After each wave ran by the men gained an inch on the tightening line. Every moment the wind blew harder, and every moment the sea rose higher. Bowles was twice washed from the rock on which he stood, and the newcomer, who was unused to the slime and ooze, had been thrown bodily into the water-hole. Sanford held to a rock a few feet above Captain Joe, watching his every movement. His anxiety for the erection of the system had been forgotten



in his admiration for the superb pluck and masterful skill of the surf-drenched sea-titan below him.

Captain Joe now moved to the edge of the anchor enrockment block, standing waist-deep in the sea, one hand holding the hook, the other the ring. Six inches more and the closure would be complete.

In heavy strains like these the last six inches gain slowly.

"Give it to 'er, men — all hands now — give it to 'er! Pull, Caleb! Pull, you —! Once more — all together —! All to —"

Again the sea buried him out of sight. The wind and tide increased. The water swirled about the men, the spray flew over their heads, and the steady pull went on.

With the breaking of the next roller the captain uttered no sound. The situation was too grave for explosives; they knew then that a crisis had arrived — one that even Captain Joe feared.

The captain bent over the chain, one arm clinging to the anchorage, his feet braced against a rock, the hook in his hand within an inch of the ring.

"*Hold hard!*" he shouted.

Caleb raised his hand in warning, and the rhythmic movement ceased. The men stood still. Every eye was fixed on the captain.

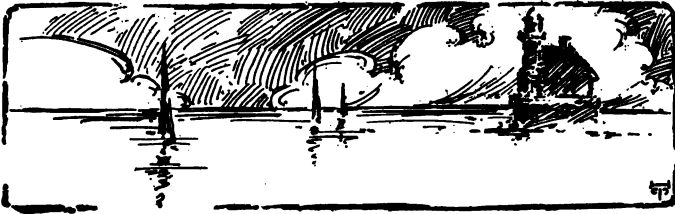
"LET GO!"

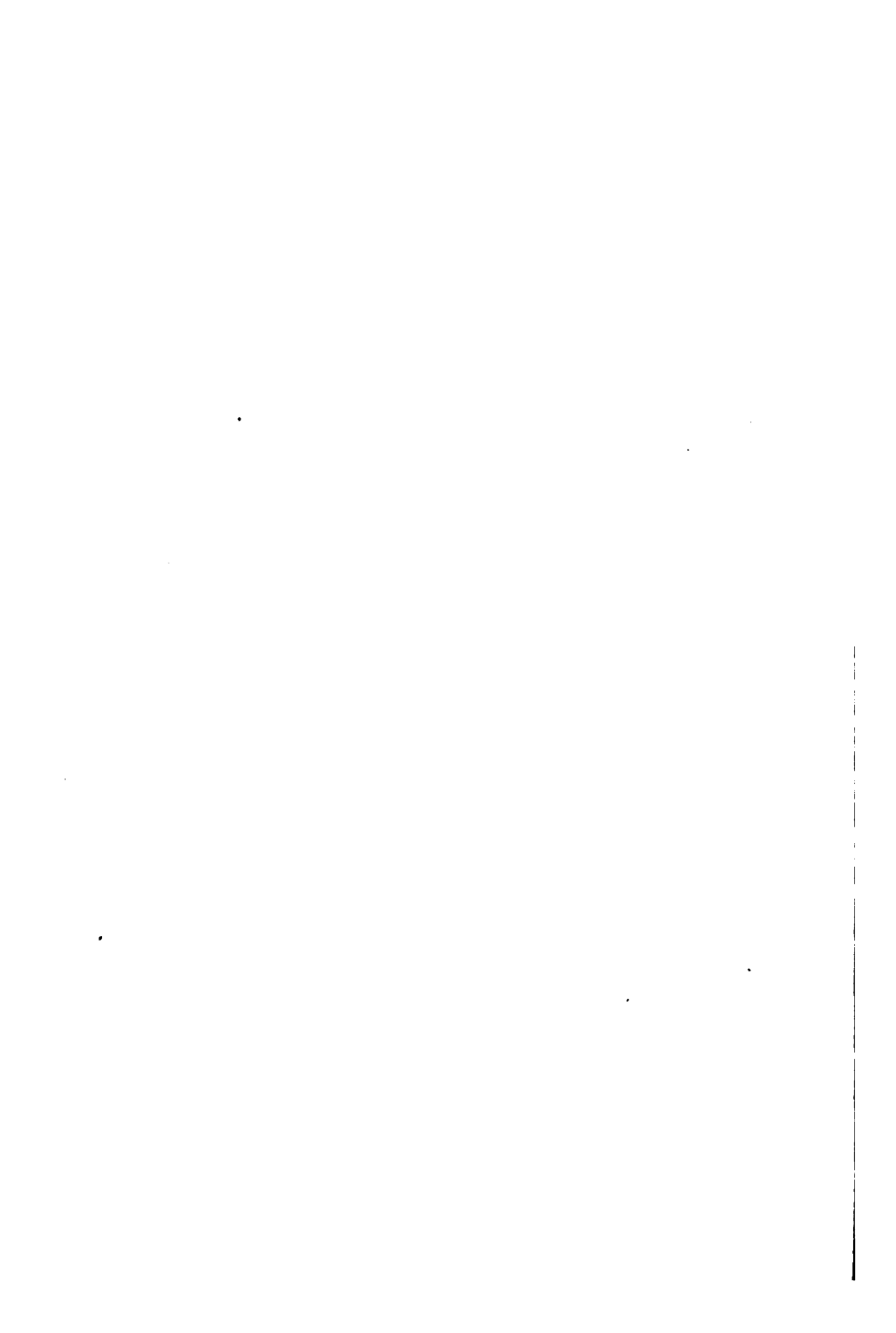
The big derrick quivered for an instant as the line slackened, stood still, and a slight shiver ran through the guys. The hook had slipped into the ring!

The system of four derricks, with all their guys and chains, stood as taut and firm as a suspension bridge.

Captain Joe turned his head calmly towards the platform, and said quietly, "There, they'll stand till hell freezes over."

Taken from *Caleb West, Master Diver*, by Francis Hopkinson Smith, published by Houghton Mifflin Company.





# RECLAIMING THE DESERT

*From The Winning of Barbara Worth*

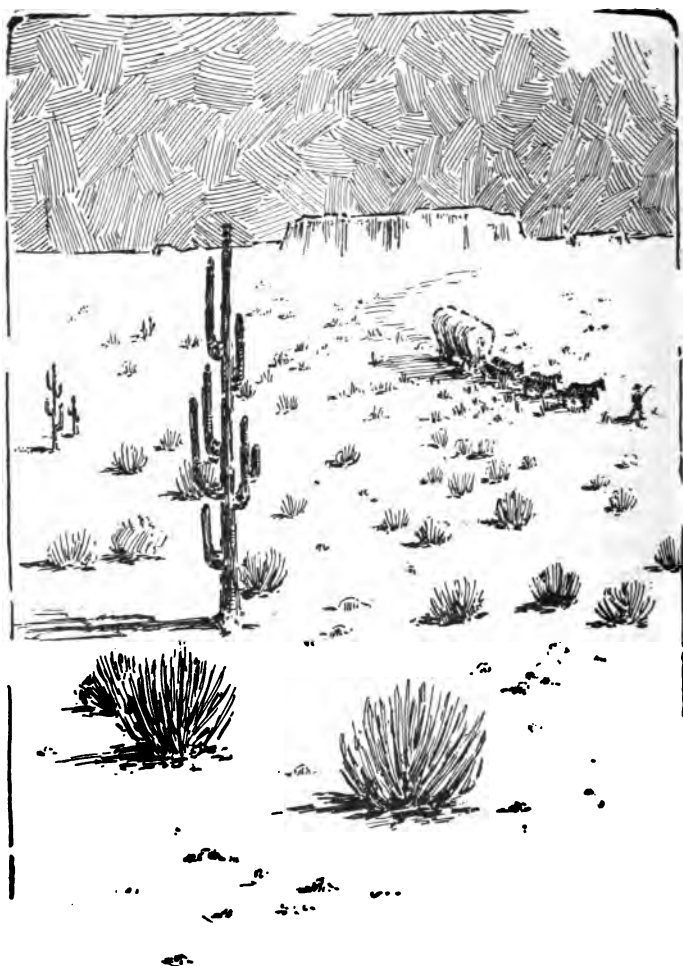
BY

HAROLD BELL WRIGHT

A baby girl was found in the sands of the Great American Desert by some men who were there to mark out highways and waterways for an irrigation scheme. Read *The Winning of Barbara Worth*, and you will know why she was there, and what fine, strong men they were who found her, those civil engineers who went into the desert sands to "blaze the trail" for civilization. Our excerpt from the book tells something of the way the work is done, and the dangers involved in the effort to irrigate the "bad lands."

Harold Bell Wright, who wrote the story, lives in the Imperial Valley, a reclaimed desert in the extreme south-eastern corner of California, and has intimate knowledge of the country he describes.

*For young people and adults.*



## RECLAIMING THE DESERT

IN the making of the Desert the canyon carving, delta-building river did not count the centuries of its labor; the rock-hewing, beach-forming waves did not number the ages of their toil; the burning, constant sun and the drying, drifting winds were not careful for the years.

Somewhere in the eternity that lies back of all the yesterdays, the great river found the salt waves of the ocean fathoms deep in what is now the King's Basin and extending a hundred and seventy miles north of the shore that takes their wash to-day. Slowly, through the centuries of that age of all beginnings, the river, cutting canyons and valleys in the north and carrying southward its load of silt, built from the east across the gulf to Lone Mountain a mighty delta dam.

South of this new land the ocean still received the river; to the north the gulf became an inland sea. The upper edge of this new-born sea beat helpless against a line of low, barren hills beyond which lay many miles of a rainless land. Eastward lay yet more miles of desolate waste. And between this sea and the parent ocean on the west,

extending southward past the delta dam, the mountains of the Coast Range shut out every moisture-laden cloud and turned back every life-bearing stream. Thus trapped and helpless, the bright waters, with all their life, fell under the constant, fierce, beating rays of the semi-tropical sun and shrank from the wearing sweep of the dry, tireless winds. Uncounted still, the centuries of that age also passed and the bottom of that sea lay bare, dry and lifeless under the burning sky, still beaten by the pitiless sun, still swept by the scorching winds.

The place that had held the glad waters with their teeming life came to be an empty basin of blinding sand, of quivering heat, of dreadful death. Unheeding the ruin it had wrought, the river swept on its way.

And so — hemmed in by mountain wall, barren hills and rainless plains; forgotten by the ocean; deserted by the river, that thirsty land lay, the loneliest, most desolate bit of this Western Continent.

But the river could not work this ruin without contributing to the desert the rich strength it had gathered from its tributary lands. Mingled with the sand of the ancient sea-bed was the silt from the far-away mountain and hill and plain. That basin of Death was more than a dusty tomb of a

life that had been; it was a sepulchre that held the vast treasure of a life that would be — would be when the ages should have made the master men, who would dare to say to the river: "Make restitution!" — men who could, with power, command the rich life within the tomb to come forth.

But master men are not the product of years — scarcely, indeed, of centuries. The master passions, the governing instincts, the leading desires and the driving fears that hew and carve and form and fashion the race are as reckless of the years as are wave and river and sun and wind. Therefore the forgotten land held its wealth until Time should make the giants that could take it.

In the centuries of those forgotten ages that went into the making of The King's Basin Desert, the families of men grew slowly into tribes, the tribes grew slowly into nations and the nations grew slowly into worlds. New worlds became old; and other new worlds were discovered, explored, developed and made old; war and famine and pestilence and prosperity hewed and formed, carved and built and fashioned, even as wave and river and sun and wind. The kingdoms of earth, air and water yielded up their wealth as men grew strong to take it; the elements bowed their necks to his yoke, to fetch and carry for him as he grew wise to order; the wilderness fled, the mountains laid bare their

hearts, the waste places paid tribute as he grew brave to command.

Across the wide continent the tracks of its wild life were trodden out by broad cattle trails, the paths of the herds were marked by the wheels of immigrant wagons and the roads of the slow-moving teams became swift highways of steel. In the East the great cities that received the hordes from every land were growing ever greater. On the far west coast the crowded multitude was building even as it was building in the East. In the Southwest savage race succeeded savage race, until at last the slow-footed padres overtook the swift-footed Indian and the rude civilization made possible by the priests in turn ran down the priest.

About the land of my story, forgotten under the dry sky, this ever-restless, ever-swelling tide of life swirled and eddied — swirled and eddied, but touched it not. On the west it swept even to the foot of the grim mountain wall. On the east one far-flung ripple reached even to the river — when Rubio City was born. But the Desert waited, silent and hot and fierce in its desolation, holding its treasures under the seal of death against the coming of the strong ones; waited until the man-making forces that wrought through those long ages should have done also their work; waited for this age —

for your age and mine — for the age of the Seer and his companions.

\* \* \* \* \*

The Seer's expedition, returning from the south, made camp on the bank of the Rio Colorado twenty miles below Rubio City. It was the last night out. Supper was over, and the men, with their pipes and cigarettes, settled themselves in various careless attitudes of repose after the long day. Their sunburned faces, toughened figures and worn, desert-stained clothing testified to their weeks of toil in the open air under the dry sky of an almost rainless land. Some were old-timers—veterans of many a similar campaign. Two were new recruits on their first trip. All were strong, clean-cut, vigorous specimens of intelligent, healthy manhood, for in all professions, not excepting the army and navy, there can be found no finer body of men than our civil engineers.

Day after day they rode from sunrise until dark; studying the land, estimating distances and grades, observing the courses of the channels cut by the overflow and the marks of high water, noting the character of the soil and vegetation; sometimes together, sometimes separated; with Jose to select their camping places and to help them with his Indian knowledge of the country.

And always at night, after the long hard day, when supper — cooked by their own hands — was over, with pipe and cigarettes they reviewed their observations and compared notes, summing up the results before rolling in their blankets to sleep under the stars.

Some day, perhaps, when the world is much older and very much wiser, Civilization will erect a proper monument to the memory of such men as these. But just now Civilization is too greedily quarreling over its newly acquired wealth to acknowledge its debt of honor to those who made this wealth possible.

But the Seer and companion concerned themselves with no such thoughts as these. They thought only of the possibility of converting the thousands of acres of The King's Basin Desert into productive farms. For this they conceived to be their work.

They had worked across the Basin to Lone Mountain and back to the river to a point nearly opposite the clump of cottonwoods where they had left the expedition. To-morrow night they would be in Rubio City.

"Abe," said the Seer, "our intake would go in right here. We could follow the old channel of Dry River with our canal about twenty miles out, put in a heading and lead off our mains and laterals."

For two or three hours they discussed plans and estimates, then the engineer shut his note-book with

a snap. "If those New Yorkers don't listen to what I can tell them of this country now they're a whole lot slower than I take them to be."

\* \* \* \* \*

The party that was to make the first survey in the Desert was being formed and equipped under the direction of Abe Lee. Horses, mules, wagons, camp outfits and supplies, with Indian and Mexican laborers, teamsters of several nationalities and here and there a Chinese cook, were assembled. Toward the last from every part of the great Western country came the surveyors and engineers — sunburned, khaki-clad men most of them, toughened by their out-of-door life, overflowing with health and good spirits. They hailed one another joyously and greeted Abe with extravagant delight, overwhelming him with questions. For the word had gone out that the Seer, beloved by all the tribe, and his lieutenant, almost equally beloved, were making "big medicine" in The King's Basin Desert. Not a man of them would have exchanged his chance to go for a crown and sceptre.

Slowly, day by day, the surveying party under the Seer pushed deeper and deeper into the awful desolation of the Basin. They were the advance force of a mighty army ordered ahead by Good Business — the master passion of the race. The

expedition was divided into several smaller parties, each of which was assigned to certain defined districts.

Every morning, from each of these camps, squads of khaki-clad men bearing transit and level, stake and pole and flag — the weapons of their warfare — put out in different directions into the vast silence that seemed to engulf them. Every evening the squads returned, desert-stained and weary, to their rest under the lonesome stars.

Perhaps the gray lizard that climbed to the top of a line stake wondered at the strange new growth that had sprung up so suddenly from the familiar soil; or perhaps the horned-toad, scuttling to cover, marveled at the strange sounds as the stakes were driven and man called to man figures and directions.

These lines of stakes that every day stretched farther and farther into and across the waste seemed, in the wideness of the land, pitifully foolish. Looking back over the lines, the men who set them could scarcely distinguish the way they had come. But they knew that the stakes were there. They knew that some day that other, mightier company, the main army, would move along the way they had marked to meet the strength of the barren waste with the strength of the great river and take for the race the wealth of the land.

\* \* \* \* \*

The work of the expedition was nearly finished. The banker knew now from the results of the survey and from his own careful observations and estimates that the Seer's dream was not only possible from an engineering point of view, but from the careful capitalist's standpoint would justify a large investment. Lying within the lines of the ancient beach and thus below the level of the great river, were hundreds of thousands of acres equal in richness of soil to the famous delta lands of the Nile. The bringing of the water from the river and its distribution through a system of canals and ditches, while a work of great magnitude requiring the expenditure of large sums of money, was, as an engineering problem, comparatively simple.

As Jefferson Worth gazed at the wonderful scene, a vision of the changes that were to come to that land passed before him. He saw first, following the nearly completed work of the engineers, an army of men beginning at the river and pushing out into the desert with their canals, bringing with them the life-giving water. Soon, with the coming of the water, would begin the coming of the settlers. Hummocks would be levelled, washes and arroyos filled, ditches would be made to the company canals, and in place of the thin growth of gray-green desert vegetation with the ragged patches of dun earth would come great fields of luxuriant alfalfa, billow-

ing acres of grain, with miles and miles of orchards, vineyards and groves. The fierce desert life would give way to the herds and flocks and the home life of the farmer. The railroad would stretch its steel strength into this new world; towns and cities would come to be where now was only solitude and desolation; and out from this world-old treasure house vast wealth would pour to enrich the peoples of the earth. The wealth of an empire lay in that land under the banker's eye, and Capital held the key.

But while the work of the engineers was simple, it would be a great work; and it was the magnitude of the enterprise and the consequent requirement of large sums of money that gave Capital its opportunity. Without water the desert was worthless. With water the productive possibilities of that great territory were enormous. Without Capital the water could not be had. Therefore Capital was master of the situation, and, by controlling the water, could exact royal tribute from the wealth of the land.

In obedience to its master passion — Good Business — the race now began pouring its life into the barren wastes. In the city by the sea at the end of Southwestern and Continental there was a suite of offices with real gold letters on the ground-glass doors richly spelling "The King's Basin Land and Irrigation Company."

From this office went forth to the advertising departments of the magazines and papers, skilfully prepared copy, which in turn was followed by pamphlets, circulars and letters innumerable. In one room a company of clerks and bookkeepers and accountants pored over their tasks at desks and counters. In another a squad of stenographers filled the air with the sound of their typewriters. Through the doors of the different rooms passed an endless procession; men from the front with the marks of the desert sun on their faces — engineers, superintendents, bosses, messengers, agents — servants of the Company; laborers of every sort and nationality came in answer to the cry: "Men wanted!"; special salesmen from foundery, factory and shop drawn by prospective large sales of machinery, implements and supplies; land-hungry men from everywhere seeking information and opportunity for investment.

At Deep Well — which was no well at all — on the rim of the Basin, trainloads of supplies, implements, machinery, lumber and construction material, horses, mules and men were daily side-tracked and unloaded on the desert sands.

Every hour companies of men with teams and vehicles set out from the camp to be swallowed up in the silent distance. Night and day the huge

mountain of goods was attacked by the freighters who, with their big wagons drawn by six, eight, twelve, or more, mules, appeared mysteriously out of the weird landscape as if they were spirits materialized by some mighty unknown genii of the desert. Their heavy wagons loaded, their water barrels filled, they turned again to the unseen realm from which they had been summoned. The sound of the loud voices of the drivers, the creaking of the wagons, the jingle of the harness, the shot-like reports of long whips died quickly away ; while, to the vision, the outfits passed slowly — fading, dissolving in their great clouds of dust, into the land of mystery.

True to the far-reaching plans of the Company, at the largest and most central of the supply camps, located in the very heart of the Basin, the town site of Kingston was laid out, and even in the days when every drop of water was hauled from three to ten miles town lots were offered for sale and sold to eager speculators.

A year from the beginning of the work at the intake at the river, water was turned into the canals. With the coming of the water, Kingston changed, almost between suns, from a rude supply camp to an established town with post-office, stores, hotel, blacksmith shop, livery stables, all in buildings more or less substantial.

With the coming of the water also, the stream of human life that flowed into the Basin was swollen by hundreds of settlers driven by the master passion — Good Business — to toil and traffic, to build the city, to subdue and cultivate the land and thus to realize the Seer's dream. Every sunrise saw new tent-houses springing up on the claims of the settlers around the Company town and new buildings beginning in the center of it all — Kingston. Every sunset saw miles of new ditches ready to receive the water from the canal and acres of new land cleared and graded for irrigation.

As the trying months of the semi-tropical summer approached, the great Desert, so awful in its fierce desolation, so pregnant with the life it was still so reluctant to yield, gathered all its dreadful forces to withstand the inflowing streams of human energy. In the fierce winds that rushed through the mountain passes and swept across the hot plains like a torrid furnace blast; in the blinding, stinging, choking, smothering dust that moved in golden clouds from rim to rim of the Basin; in the hot sky, without shred or raveling of cloud; in the creeping, silent, poison life of insect and reptile; in the maddening dryness of the thirsty vegetation; in the weird, beautiful falseness of the ever-changing mirage, the spirit of the Desert issued its silent challenge: the silent, sinister, menacing threat of a

desolation that had conquered by cruel waiting and that lay in wait to conquer.

With a grim determination, nervous energy, enduring strength and a dogged tenacity of purpose, the invading flood of humanity, irresistibly driven by that master passion, Good Business, matched its strength against that of the Desert in the season of its greatest power.

Steadily mile by mile, acre by acre, and at times almost foot by foot, the pioneers wrested their future farms and homes from the dreadful forces that had held them for ages. Steadily, with the inflowing stream of life from the world beyond the Basin's rim, the area of the improved lands about Kingston extended and the work in the Company's town went on. By midsummer many acres of alfalfa, with Egyptian corn and other grains, showed broad fields of living green cut into the dull, dun plain of the Desert and laced with the silver threads of water shining in the sun.

\* \* \* \* \*

When the King's Basin Messenger announced that a survey was being made for a railroad from the main line of the S. & C. at Deep Well to Kingston, the news was spread by the papers throughout the surrounding country and from every side the swelling flood of life flowed in. Every section of

the new lands felt the influence of the rush. For miles around the towns, every vacant tract was seized by the incoming settlers. Town site companies quickly laid out new towns, while in the towns already established new business blocks and dwellings sprang up as if some Aladdin had rubbed his lamp. Real estate values advanced to undreamed figures and the property was sold, resold and sold again. And Kingston, Texas Joe said, "went plumb locoed."

The name of Jefferson Worth was on every tongue. Was not he the wizard who commanded prosperity and wealth to wait upon The King's Basin? Was he not the Aladdin who rubbed the lamp?

The methods of capital are impersonal, inhuman — the methods of a force governed by laws as fixed as the laws of nature, neither cruel nor kind; inconsiderate of man's misery or happiness, his life or death; using man for its own ends — profit, as men use water and soil and sun and air. The methods of Jefferson Worth were the methods of a man laboring with his brother men, sharing their hardships, sharing their returns; a man using money as a workman uses his tools to fashion and build and develop, adding thus to the welfare of human kind.

Taken from *The Winning of Barbara Worth*, by Harold Bell Wright, published by A. L. Burt Company, Copyright, 1911.





# THE SALMON

From *The Silver Horde*

BY

REX BEACH

Rex Beach, writer of novels and plays, studied law in Chicago and went to Alaska with the "gold rush," cutting wood for steamboats, or doing any other rough work as he made himself acquainted with the country. His *Silver Horde* is one of those stirring, "rattling good" stories that are full of action, dramatic movement, and intensity of human passions. It is a tale of the north of Alaska. Love and adventure crowd each other.

Our quotation is the vivid life story of the salmon — from its birth, through its venture to the sea, its years of wandering, and its struggle to return to its native waters, there to die.

*For young people and adults.*



## THE SALMON

"I DARE say Kalvik is rather lively during the summer season," Emerson remarked to Cherry.

"Yes; the ships arrive in May, and the fish begin to run in July. After that nobody sleeps."

"It must be rather interesting," he observed.

"It is more than that; it is inspiring. Why, the story of the salmon is an epic in itself. You know they live in a cycle of four years, no more, always returning to the waters of their nativity to die; and I have heard it said that during one of those four years they disappear, no one knows where, reappearing out of the mysterious depths of the sea as if at a signal. They come by the legion, in countless scores of thousands; and when once they have tasted the waters of their birth they never touch food again, never cease their onward rush until they become bruised and battered wrecks, drifting down from the spawning-beds. When the call of nature is answered and the spawn is laid, they die. They never seek the salt sea again, but carpet the river with their bones. When they feel the homing impulse they come from the remotest

depths, heading unerringly for the particular parent stream whence they originated. If sand-bars should block their course in dry seasons or obstacles intercept them, they will hurl themselves out of the water in an endeavor to get across. They may disregard a thousand rivers, one by one; but when they finally taste the sweet currents which flow from their birthplaces their whole nature changes, and even their physical features alter: they grow thin, and the head takes the sinister curve of the preying bird."

"I had no idea they acted that way," said Emerson. "You paint a vivid picture."

"That's because they interest me. As a matter of fact, these fisheries are more interesting than any place I have ever seen. Why, you ought to witness the 'run.' These empty waters become suddenly crowded, and the fish come in a great silver horde, which races up, up, up toward death and obliteration. They come with the violence of a summer storm. Like a prodigious gleaming army they swarm and bend forward, eager, undeviating, one-purposed. It's quite impossible to describe it — this great silver horde. They are entirely defenceless, of course, and almost every living thing preys upon them. The birds congregate in millions, the four-footed beasts come down from the hills, the Apaches of the sea harry them in dense groves,

and even man appears from distant coasts to take his toll; but still they press bravely on. The clank of machinery makes the hills rumble, the hiss of steam and the sighs of the soldering-furnaces are like the complaint of some giant overgorging himself. The river swarms with the fleets of fish-boats, which skim outward with the dawn to flit homeward again at twilight and settle like a vast brood of white-winged gulls. Men let the hours go by unheeded, and forget to sleep."

"What sort of men do they hire?"

"Chinese, Japs, and Italians, mainly. It's like a foreign country here, only there are no women. The bunk-rooms are filled with opium fumes and noisy with clacking tongues. On one side of the village streets the Orientals burn incense to their Joss, across the way the Latins worship the Virgin. They work side by side all day until they are ready to drop."

"How long does it all last?"

"Only about six weeks; then the furnace fires die out, the ships are loaded, the men go to sleep, and the breezes waft them out into the August haze, after which Kalvik sags back into its ten months' coma, becoming, as you see it now, a dead, deserted village, shunned by man."

"Jove! you have a graphic tongue," said Emerson appreciatively. "But I don't see how those



huge plants can pay for their upkeep with such a short run."

"Well, they do; and, what's more, they pay tremendously; sometimes a hundred per cent a year or more."

"Impossible!" Emerson was now thoroughly aroused, and Cherry continued:

"Two years ago a ship sailed into port in early May loaded with an army of men, with machinery, lumber, coal, and so forth. They landed, built the plant, and had it ready to operate by the time the run started. They made their catch, and sailed away in August with enough salmon in the hold to pay twice over for the whole thing. Next season will be another big year."

"How is that?"

"Every fourth season the run is large; nobody knows why."

"I had no idea there were such profits in the fisheries up here."


"Nobody knows it outside of those interested. The Kalvik River is the most wonderful salmon river in the world, for it has never failed once. That's why the Companies guard it so jealously. You see, it is set away off here in one corner of Behring Sea without means of communication or access, and they intend to keep it so."

\* \* \* \* \*

The main body of salmon struck the Kalvik River on the first day of July. For a week past the run had been slowly growing, while the canneries tested themselves; but on the opening day of the new month the horde issued boldly forth from the depths of the sea, and the battle began in earnest. They came during the hush of the dawn, a mad, crowding throng from No Man's Land, to wake the tide-rips and people the shimmering reaches of the bay, lashing them to sudden life and fury. Outside, the languorous ocean heaved as smiling and serene as ever, but within the harbor a wondrous change occurred.

As if in answer to some deep-sea signal, the tides were quickened by a coursing multitude, steadfast and unafraid, yet foredoomed to die by the hand of man, or else more surely by the serving of their destiny. Clad in their argent mail of blue and green, they worked the bay to madness; they overwhelmed the waters, surging forward in great droves and columns, hesitating only long enough to frolic with the shifting currents, as if rejoicing in their strength and beauty.

At times they swam with cleaving fins exposed; again they churned the placid waters until swift combers raced across the shallow bars like tidal waves, while the deeper channels were shot through with the shadowy forms or pierced by the lightning



glint of silvered bellies. They streamed in with the flood tide to retreat again with the ebb, but there was neither haste nor caution in their progress; they had come in answer to the breeding call of the sea, and its exultation was upon them, driving them resistlessly onward. They had no voice against its overmastering spell.

Mustering in the early light like a swarm of giant white-winged moths, the fishing-boats raced forth with the flowing tide, urged by sweep and sail and lusty sinews. Paying out their hundred-fathom nets, they drifted over the banks like flocks of resting sea-gulls, only to come ploughing back again deep laden with their spoils. Grimy tugboats lay beside the traps, shrilling the air with creaking winches as they "brailed" the struggling fish, a half-ton at a time, from the "pounds," now churned to milky foam by the ever-growing throng of prisoners; and all the time the big plants gulped the sea harvest, faster and faster, clanking and gnashing their metal jaws, while the mounds of salmon lay hip-deep to the crews that fed the butchering machines.

The Iron Chink, or mechanical cleaner, is perhaps the most ingenious of the many labor-saving devices used in the salmon fisheries. It is an awkward-looking, yet very effective contrivance of revolving knives and conveyors which seizes the

fish whole and delivers it cleaned, clipped, cut, and ready to be washed. With superhuman dexterity it does the work of twenty lightning-like butchers.

Now dawned a period of feverish activity wherein no one might rest short of actual exhaustion. Haste became the cry, and comfort fled.

Big George, when he had fully grasped the situation, became the boss fishermen on the instant; before the others had reached the cook-house he was busied in laying out his crews and distributing his gear. That night the floors of the fish-dock groaned beneath a weight of silver-sided salmon piled waist-high to a tall man. All through the cool, dim-lit hours the ranks of Chinese butchers hacked and slit and slashed with swift, sure, tireless strokes, while the great building echoed hollowly to the clank of machines and the hissing sigas of the soldering-furnaces. There before him were thousands of salmon. They were strewn in a great mass upon the dock and inside the shed, while from the scow beneath they came in showers as the handlers tossed them upward from their pues. Through the wide doors he saw the backs of the butchers busily at work over their tables, and heard the uproar of the cannery running full for the first time.

"Where did those fish come from?" Emerson asked.

"From the trap." George smiled. "They've struck in like I knew they would, and they're running now by the thousands. I've fished these waters for years, but I never seen the likes of it. They'll tear that trap to pieces. They're smothering in the pot, tons and tons of 'em, with millions more milling below the leads because they can't get in. It's a sight you'll not see once in a lifetime. We've got fish enough to run two canneries. They've struck their gait, I tell you, and they'll never stop now night or day till they're through."

He flung out a long, hairy arm, bared half to the shoulder, and waved it exultantly. "We built this plant to cook forty thousand salmon a day, but I'll bring you three thousand every hour, and you've got to cook them. Do you hear?"

Taken from *The Silver Horde*, by Rex Beach, published by Harper & Brothers.



# THE WHALE

*From The Cruise of the Cachalot*

BY

FRANK T. BULLEN

A little street boy of London who had been told to "move on," day after day, and was hungry and cold, ran away to sea, just to get food and shelter. He found himself on a South Sea whaler in pursuit of the Cachalot, which is the Sperm-whale, sought because of the oil and whalebone which it furnishes. Frank Thomas Bullen was the boy, and in his story of *The Cruise of the Cachalot* he tells from a seaman's standpoint of the methods used and the dangers faced while "whaling."

From street waif, through the forecastle to the post of chief mate, and then the Meteorological Office in London, Bullen rose to be a well-known story writer and lecturer.

*For young people and adults.*




## THE WHALE

"THERE she white-waters! Ah, bl-o-o-o-o-o-w, blow, blow!" sang Louis; and then, in another tone, "Sparm whale, sir; big 'lone fish, headin' 'beout east-by-nothe." "All right. 'Way down from aloft," answered the skipper, who was already halfway up the main-rigging; and like squirrels we slipped out of our hoops and down the back stays. But as the whale was at least seven miles away, and we had a fair wind for him, there was no hurry to lower, so we all stood at attention by our respective boats, waiting for the signal.

"Lower away boats!" came peeling down from the skipper's lofty perch, succeeded instantly by the rattle of the patent blocks as the falls flew through them, while the four beautiful craft took the water with an almost simultaneous splash. To shove off and hoist sail was the work of a few moments, and with a fine working breeze away we went. According to expectations, down he went when we were within a couple of miles of him, but quietly and with great dignity, elevating his tail perpendicularly in the air, and sinking slowly from our view.

The scene was very striking. Overhead, a bright blue sky just fringed with fleecy little clouds; beneath, a deep blue sea with innumerable tiny wavelets dancing and glittering in the blaze of the sun; but all swayed in one direction by a great, solemn swell that rolled from east to west, like the measured breathing of some world-supporting monster. Four little craft in a group, with twenty-four men in them, silently waiting for battle with one of the mightiest of God's creatures — one that was indeed a terrible foe to encounter were he but wise enough to make the best use of his opportunities. Against him we came with our puny weapons, of which I could not help reminding myself that "he laugheth at the shaking of a spear." But when the man's brain was thrown into the scale against the instinct of the brute, the contest looked less unequal than at first sight, for THERE is the secret of success. My musings were suddenly interrupted. Whether we had overrun our distance, or the whale, who was not "making a passage," but feeding, had changed his course, I do not know; but, anyhow, he broke water close ahead, coming straight for our boat. His great black head, like the broad bow of a dumb barge, driving the waves before it, loomed high and menacing to me. But coolly as if coming alongside the ship the mate bent the big steer-oar, and swung the boat off at right angles to her

course, bringing her back again with another broad sheer as the whale passed foaming. This manœuvre brought us side by side with him before he had time to realize that we were there. Up till that instant he evidently had not seen us, and his surprise was correspondingly great. To see Louis raise his harpoon high above his head, and with a hoarse grunt of satisfaction plunge it into the black, shining mass beside him up to the hitches, was indeed a sight to be remembered. Quick as thought he snatched up a second harpoon, and as the whale rolled from us it flew from his hands, burying itself like the former one but lower in the body. The great impetus we had when we reached the whale carried us a long way past him, out of all danger from his struggles. No hindrance was experienced from the line by which we were connected with the whale, for it was loosely coiled in a space for the purpose in the boat's bow to the extent of two hundred feet, and this was cast overboard by the harpooner as soon as the fish was fast. He made a fearful to-do over it, rolling completely over several times backward and forward, at the same time smiting the sea with his mighty tail, making an almost deafening noise and pother. But we were comfortable enough, while we unshipped the mast and made ready for action, being sufficiently far away from him to escape the full effect of his gambols.



After the usual time spent in furious attempts to free himself from our annoyance, he betook himself below, leaving us to await his return, and hasten it as much as possible by keeping a severe strain upon the line. Our efforts in this direction, however, did not seem to have any effect upon him at all. Flake after flake ran out of the tubs, until we were compelled to hand the end of our line to the second mate to splice his own on to. Still it slipped away, and at last it was handed to the third mate, whose two tubs met the same fate. It was now Mistah Jones' turn to "bend on," which he did with many chuckles as of a man who was the last resource of the unfortunate. But his face grew longer and longer as the never-resting line continued to disappear. Soon he signalled us that he was nearly out of line, and two or three minutes after he bent on his "drogue" (a square piece of plank with a rope tail spliced into its centre, and considered to hinder a whale's progress at least as much as four boats), and let go the end. We had each bent on our drogues in the same way, when we passed our ends to one another. So now our friend was getting along somewhere below with 7200 feet of  $1\frac{1}{2}$  inch rope, and weight additional equal to the drag of sixteen 30-foot boats.

Of course we knew that, unless he were dead and sinking, he could not possibly remain much longer

beneath the surface. Therefore, we separated as widely as was thought necessary, in order to be near him on his arrival. It was, as might be imagined, some time before we saw the light of his countenance; but when we did, we had no difficulty in getting alongside of him again. My friend Goliath, much to my delight, got there first, and succeeded in picking up the bight of the line. But having done so, his chance of distinguishing himself was gone. Hampered by the immense quantity of sunken line which was attached to the whale, he could do nothing, and soon received orders to cut the bight of the line and pass the whale's end to us. He had hardly obeyed, with a very bad grace, when the whale started off to windward with us at a tremendous rate. The other boats, having no line, could do nothing to help, so away we went alone, with barely a hundred fathoms of line, in case he should take it into his head to sound again. The speed at which he went made it appear as if a gale of wind was blowing, and we flew along the sea surface, leaping from crest to crest of the waves with a succession of cracks like pistol-shots. The flying spray drenched us and prevented us from seeing him. One hand was kept bailing the water out which came so freely over the bows, but all the rest hauled with all their might upon the line, hoping to get a little closer to the flying monster. Inch by



inch we gained on him, encouraged by the hoarse objurgations of the mate, whose excitement was intense. After what seemed a terribly long chase, we found his speed slackening, and we redoubled our efforts. Now we were close upon him; now, in obedience to the steersman, the boat sheered out a bit, and we were abreast of his laboring flukes; now the mate hurls his quivering lance with such hearty good-will that every inch of its slender shaft disappears within the huge body. "Lay off! Off with her, Louey!" screamed the mate; and she gave a wide sheer away from the whale, not a second too soon. Up flew that awful tail, descending with a crash upon the water not two feet from us. "Out oars! Pull, two! starn, three!" shouted the mate; and as we obeyed, our foe turned to fight. Then one might see how courage and skill were such mighty factors in the apparently unequal contest. The whale's great length made it no easy job for him to turn, while our boat, with two oars a-side, and the great leverage at the stern supplied by the nineteen-foot steer-oar, circled, backed, and darted ahead like a living thing animated by the mind of our commander. When the leviathan settled, we gave a wide berth to his probable place of ascent; when he rushed at us, we dodged him; when he paused, if only momentarily, in we flew, and got home a fearful thrust of the deadly lance.

Suddenly the mate gave a howl: "Starn all — starn all! oh, starn!" and the oars bent like canes as we obeyed. There was an upheaval of the sea just ahead; then, slowly, majestically, the vast body of our foe rose into the air. Up, up it went, while my heart stood still, until the whole of that immense creature hung on high, apparently motionless, and then fell — a hundred tons of solid flesh — back into the sea. On either side of that mountainous mass the waters rose in shining towers of snowy foam, which fell in their turn, whirling and eddying around us as we tossed and fell like a chip in a whirlpool. Blinded by the flying spray, bailing for very life to free the boat from the water with which she was nearly full, it was some minutes before I was able to decide whether we were uninjured or not. Then I saw, at a little distance, the whale lying quietly. As I looked he spouted. "Starn all!" again cried our chief, and we retreated to a considerable distance. The old warrior's practised eye had detected the coming climax of our efforts, the dying "flurry" of the great mammal. Turning upon his side, he began to move in a circular direction, slowly at first, then faster and faster, until he was rushing around at tremendous speed, his great head raised quite out of the water at times, clashing his enormous jaws. The utmost caution and rapidity of manipulation of the boat



was necessary to avoid his maddened rush, but this gigantic energy was short-lived. In a few minutes he subsided slowly, his mighty body reclined on one side. Hardly had the flurry ceased, when we hauled up alongside of our hard-won prize, in order to secure a line to him in a better manner than at present for hauling him to the ship.

The ship was some three or four miles off to leeward, so we reckoned she would take at least an hour and a half to work up to us. Meanwhile, our part of the performance being over, and well over, we thoroughly enjoyed ourselves, lazily rocking on the gentle swell by the side of a catch worth at least £ 800.

While thus ruminating, the mate and Louis began a desultory conversation concerning what they termed "ambergrease."

By some it is supposed to be the product of a diseased condition of the creature; others consider that it is merely the excreta, which, normally fluid, has by some means become concreted. It is nearly always found with cuttle-fish beaks imbedded in its substance, showing that these indigestible portions of the sperm whale's food have in some manner become mixed with it during its formation in the bowel. Chemists have analyzed it with scanty results. Its great value is due to its property of

intensifying perfumes, although, strange to say, it has little or no odor of its own, a faint trace of musk being perhaps detectable in some cases.

The ship now neared us fast. Arriving alongside, the line was handed on board, and in a short time the prize was hauled to the gangway. He was indeed a fine catch, being at least seventy feet long, and in splendid condition. Verily those officers toiled like Titans to get that tremendous head off, even the skipper taking a hand. All that night we worked incessantly, ready to drop with fatigue. The "junk" was hooked on to both cutting tackles, and the windlass manned by everybody who could get hold. Slowly the enormous mass rose, canting the ship heavily as it came, while every stick and rope aloft complained of the great strain upon them.

It was hauled from the gangway by tackles, and securely lashed to the rail running round beneath the top of the bulwarks for that purpose. Then there was another spell, while the "case" was separated from the skull. This was too large to get on board, so it was lifted halfway out of water by the tackles, one hooked on each side; then they were made fast, and a spar rigged across them at a good height above the top of the case. A small block was lashed to this spar, through which a line was rove. A long, narrow bucket was attached



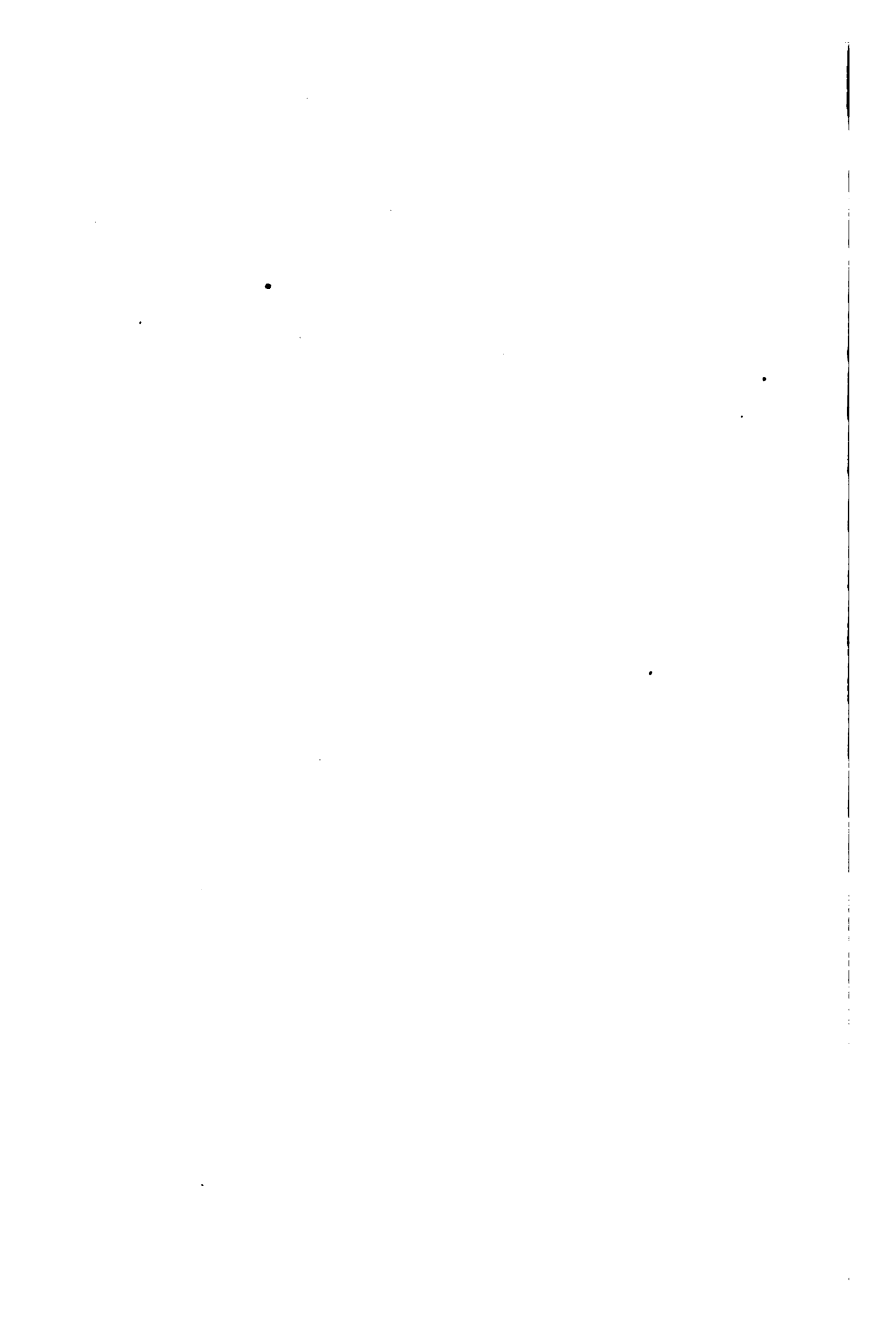
to one end of this rope; the other end on deck was attended by two men. One unfortunate beggar was perched aloft on the above-mentioned spar. He was provided with a pole, with which he pushed the bucket down through a hole cut in the upper end of the "case," whence it was drawn out by the chaps on deck full of spermaceti. It was a weary, unsatisfactory process, wasting a great deal of the substance being baled out; but no other was apparently possible. As the stuff was gained, it was poured into large tanks in the blubber-room, the quantity being too great to be held by the try-pots at once. Twenty-five barrels of this clear, wax-like substance were baled from that case; and when at last it was lowered a little, and cut away from its supports, it was impossible to help thinking that much was still remaining within which we, with such rude means, were unable to save. Then came the task of cutting up the junk. Layer after layer, eight to ten inches thick, was sliced off, cut into suitable pieces, and passed into the tanks. So full was the latter of spermaceti that one could take a piece as large as one's head in the hands, and squeeze it like a sponge, expressing the spermaceti in showers, until nothing remained but a tiny ball of fibre. All this soft, pulpy mass was held together by walls of exceedingly tough, gristly integument, "white horse," which was as difficult

to cut as gutta-percha, and, but for the peculiar texture, not at all unlike it.

The lower jaw of this whale measured exactly nineteen feet in length from the opening of the mouth, or, say, the last of the teeth, to the point, and carried twenty-eight teeth on each side. For the time, it was hauled aft out of the way, and secured to the lash-rail. For a whole week our labors continued, and when they were over we had stowed below a hundred and forty-six barrels of mingled oil and spermaceti, or fourteen and a half tons.

Taken from *The Cruise of the Cachalot*, by Frank T. Bullen, published by D. Appleton & Co.





# GLASS-BLOWERS

From *Marietta*

BY

FRANCIS MARION CRAWFORD

Marietta was the daughter and companion of the most noted glass-blower in Venice, and was his assistant in his secret experiments in making the famous "blood-red" glass. At a time when her father was away and his trusted man was seriously burned, she managed the furnaces, and directed the glass blowing. The best part of the story is that it is true, though it all happened over 400 years ago.

Francis Marion Crawford, who wrote *Marietta*, was a prince among story tellers. He was born in Italy; educated in New Hampshire, England, Germany, Italy, and India, and finished at Harvard. His home was in Sorrento, Bay of Naples. He says of this story, "I wrote it while enjoying the full illusion of the actual time and events."

*For adults.*



## GLASS-BLOWERS, IN THE YEAR 1470

VERY little was known about George, the Dalmatian, and the servants in the house of Angelo Beroviero, as well as the workmen of the latter's glass furnace, called him Zorzi, distrusted him, suggested that he was probably a heretic, and did not hide their suspicion that he was in love with the master's only daughter, Marietta. All these matters were against him, and people wondered why Angelo kept the waif in his service, since he could have engaged any one out of a hundred young fellows of Murano, all belonging to the almost noble caste of the glass-workers, all good Christians, all trustworthy, and all ready to promise that the lovely Marietta should never make the slightest impression upon their respectfully petrified hearts. But Angelo had not been accustomed to consider what his neighbours might think of him or his doings, and most of his neighbors and friends abstained with singular unanimity from thrusting their opinions upon him. For this, there were three reasons: he was very rich, he was the greatest living artist in working glass, and he was of a choleric temper. He confessed the latter



fault with great humility to the curate of San Piero each year in Lent, but he would never admit it to any one else. Indeed, if any of his family ever suggested that he was somewhat hasty, he flew into such an ungovernable rage in proving the contrary that it was scarcely wise to stay in the house while the fit lasted. As for her brothers, though the elder was nearly forty years old, it was not long since his father had given him a box on the ears which made him see simultaneously all the colours of all the glasses ever made in Murano before or since. It is true that Giovanni had timidly asked to be told one of the secrets for making fine red glass which old Angelo had learned long ago from old Paolo Godi of Pergola, the famous chemist; and these secrets were all carefully written out in the elaborate character of the late fifteenth century, and Angelo kept the manuscript in an iron box, under his own bed, and wore the key on a small silver chain at his neck.

Moreover, because he needed a man to help him, and because he was afraid lest one of his own caste should fall in love with Marietta, he took Zorzi, the Dalmatian waif, into his service; and the three were often together all day in the room where Angelo had set up a little furnace for making experiments. In the year 1470 it was not lawful in Murano to teach any foreign person the art of glass-making;

for the glass-blowers were a sort of nobility, and nearly a hundred years had passed since the Council had declared that the patricians of Venice might marry the daughters of glass-workers without affecting their own rank or that of their children. But old Benoviero declared that he was not teaching Zorzi anything, that the young fellow was his servant and not his apprentice, and did nothing but keep up the fire in the furnace, and fetch and carry, grind materials, and sweep the floor. It was quite true that Zorzi did all these things, and he did them with a silent regularity that made him indispensable to his master, who scarcely noticed the growing skill with which the young man helped him at every turn, till he could be entrusted to perform the most delicate operations in glass-working without any especial instructions. Intent upon artistic matters, the old man was hardly aware, either, that Marietta had learned much of his art; or if he realized the fact he felt a sort of jealous satisfaction in the thought that she liked to be shut up with him for hours at a time, quite out of sight of the world and altogether out of harm's way. He fancied that she grew more like him from day to day, and he flattered himself that he understood her. She and Zorzi were the only beings in his world who never irritated him, now that he had them always under his eye and command.




The glass-house was guarded from outsiders as carefully as a nunnery, and somewhat resembled a convent in having no windows so situated that curious persons might see from without what went on inside. The place was entered by a low door from the narrow paved path that ran along the canal. In a little vestibule, ill-lighted by one small grated window, sat the porter, an uncouth old man who rarely answered questions, and never opened the door until he had assured himself by a deliberate inspection through the grating that the person who knocked had a right to come in. Marietta remembered him in his den when she had been a little child, and she vaguely supposed that he had always been there. He had been old then, he was not visibly older now, he would probably never die of old age, and if any mortal ill should carry him off, he would surely be replaced by some one exactly like him, who would sleep in the same box bed, sit all day in the same black chair, and eat bread, shellfish and garlic off the same worm-eaten table. There was no other entrance to the glass-house, and there could be no other porter to guard it.

Beyond the vestibule a dark corridor led to a small garden that formed the court of the building, and on one side of which were the large windows that lighted the main furnace room, while the other

side contained the laboratory of the master. But the main furnace was entered from the corridor, so that the workmen never passed through the garden.

Here Marietta often sat in the shade, when the laboratory was too close and hot, and when the time was at hand during which even the men would not be able to work on account of the heat, and the furnace would be put out and repaired, and every one would be set to making the delicate clay pots in which the glass was to be melted.

Zorzi had plenty of time for reflection, for his master became absorbed in his work, weighing out portions of different ingredients and slowly mixing each with the coloured earths and chemicals that were already in the wooden trough. There was nothing to do but tend the fire, and Zorzi pushed in the pieces of Istrian beech wood with his industrious regularity. It was the only part of his work that he hated, and when he was obliged to do nothing else, he usually sought consolation in dreaming of a time when he himself should be a master glass-blower and artist whom it would be almost an honour for a young man to serve, even in such a humble way. He did not know how that was to happen, since there were strict laws against teaching the art to foreigners, and also against allowing any foreign person to establish a furnace at Murano;



and the glass-works had long been altogether banished from Venice on account of the danger of fire, at a time when two-thirds of the houses were of wood. But meanwhile Zorzi had learned the art, in spite of the law, and he hoped in time to overcome the other obstacles that opposed him.

Marietta looked out over her flowers. The door of the glass-house was open and the burly porter was sweeping; she could hear the cypress broom on the flagstones inside, and presently it appeared in sight while the porter was still invisible, and it whisked out a mixture of black dust and bread crumbs and bits of green salad leaves, and the old man came out and swept everything across the footway into the canal. As he turned to go back, the workmen came trooping across the bridge to the furnaces—pale men with intent faces, very different from ordinary working people. For each called himself an artist, and was one; and each knew that so far as the law was concerned the proudest noble in Venice could marry his daughter without the least derogation from patrician dignity. The workmen differed from her own father not in station, but only in the degree of their prosperity.

Yet dexterous as they were, there was not one that had Zorzi's skill, there was not one that could compare with him as an artist, as a workman, as a man. No Indian caste, no ancient nobility, no

mystic priesthood ever set up a barrier so impassable between itself and the outer world as that which defended the glass-blowers of Murano for centuries against all who wished to be initiated. Even the boys who fed fires all night were of the calling, and by and by would become workmen, and perhaps masters, legally almost the equals of the splendid nobles who sat in the Grand Council over there in Venice.

Zorzi's very existence was an anomaly. He had no social right to be what he was, and he knew it when he called himself a servant, for the cruel law would not allow him to be anything else so long as he helped Angelo Beroviero.

Suddenly, while Marietta watched the men, Zorzi was there among them. No one greeted him, even by a nod. Marietta knew that they hated him because he was in her father's confidence; and somehow, instead of pitying him, she was glad.

It seemed natural that he should not be one of them, that he should pass them in quiet indifference and that they should feel for him the instinctive dislike which most inferiors feel for those above them. Doubtless, they looked down upon him, or told themselves that they did; but in their hearts they knew that a man with such a face was born to be their teacher and their master, and the girl was proud of him.

Presently Beroviero settled to his work with his usual concentration. For many months he had been experimenting in the making of fine red glass of a certain tone, of which he had brought home a small fragment from one of his journeys. Hitherto he had failed in every attempt. He had tried one mixture after another, but not one of them had that marvellous light in it, like sunshine striking through bright blood, which he was trying to obtain. It was nearly three weeks since his small furnace had been allowed to go out, and by this time he alone knew what the glowing pots contained, for he wrote down very carefully what he did and in characters which he believed no one could understand but himself.

As usual every morning, he proceeded to make trial of the materials fused in the night. The furnace, though not large, held three crucibles, before each of which was the opening, still called by the Italian name 'bocca,' through which the materials are put into the pots to melt into glass, and by which the melted glass is taken out on the end of the blow-pipe, or in a copper ladle, when it is to be tested by casting it. The furnace was arched from end to end, and about the height of a tall man; the working end was like a round oven with three glowing openings; the straight part, some twenty feet long, contained the annealing oven

through which the finished pieces were made to move slowly, on iron *lier-pans*, during many hours, till the glass had been passed from extreme heat almost to the temperature of the air. The most delicate vessels ever produced in Murano have all been made in single furnaces, the materials being melted, converted into glass and finally annealed, by one fire. At least one old furnace is standing and still in use, which has existed for centuries, and those made nowadays are substantially like it in every important respect.

Zorzi stood holding a long-handled copper ladle, ready to take out a specimen of the glass containing the ingredients most lately added. A few steps from the furnace a thick and smooth plate of iron was placed on a heavy wooden table, and upon this the liquid glass was to be poured out to cool.

"It must be time," said Beroviero, "unless the boys forgot to turn the sand-glass at one of the watches. The hour is all but run out, and it must be the twelfth since I put in the materials."

"I turned it myself, an hour after midnight," said Zorzi, "and also the next time, when it was dawn. It runs three hours. Judging by the time of sunrise it is running right."

"Then make the trial."

Beroviero stood opposite Zorzi, his face pale with the heat and excitement, his fiery eyes reflecting the

fierce light from the 'bocca' as he bent down to watch the copper ladle go in. Zorzi had wrapped a cloth round his right hand, against the heat, and he thrust the great spoon through the round orifice. Though it was the hundredth time of testing, the old man watched his movements with intensest interest.

"Quickly, quickly!" he cried, quite unconscious that he was speaking.

There was no need of hurrying Zorzi. In two steps he had reached the table, and the white hot stuff spread out over the iron plate, instantly turning to a greenish yellow, then to a pale rose-colour, then to a deep and glowing red, as it felt the cool metal. The two men stood watching it closely, for it was thin and would soon cool. Zorzi was too wise to say anything. Beroviero's look of interest gradually turned into an expression of disappointment.

"Another failure," he said, with a resignation which no one would have expected in such a man.

His practised eyes had guessed the exact hue of the glass, while it lay on the iron, half cooled and far too hot to touch. Zorzi took a short rod and pushed the round sheet till a part of it was over the edge of the table.

"It is the best we have had yet," he observed, looking at it.

"Is it?" asked Beroviero with little interest, and without giving the glass another glance. "It is not what I am trying to get. It is the colour of wine, not of blood. Make something, Zorzi, while I write down the result of the experiment."

He took his pen and the sheet of rough paper on which he had already noted the proportions of the materials, and he began to write, sitting at the large table before the open window. Zorzi took the long iron blow-pipe, cleaned it with a cloth and pushed the end through the orifice from which he had taken the specimen. He drew it back with a little lump of melted glass sticking to it.

Holding the blow-pipe to his lips, he blew a little, and the lump swelled, and he swung the pipe sharply in a circle, so that the glass lengthened to the shape of a pear, and he blew again and it grew. At the 'bocca' of the furnace he heated it, for it was cooling quickly; and he had his iron pontil ready, as there was no one to help him, and he easily performed the feat of taking a little hot glass on it from the pot and attaching it to the further end of the fast-cooling pear. If Beroviero had been watching him he would have been astonished at the skill with which the young man accomplished what it requires two persons to do; but Zorzi had tricks of his own, and the pontil supported itself on a board while he cracked the pear from the blow-pipe with

a wet iron, as well as if a boy had held it in place for him; and then heating and reheating the piece, he fashioned it and cut it with tongs and shears, rolling the pontil on the flat arms of his stool with his left hand, and modelling the glass with his right, till at last he let it cool to its natural colour, holding it straight downward, and then swinging it slowly, so that it should fan itself in the air. It was a graceful calix now, of a deep wine red, clear and transparent as claret.

Marietta left the window and entered the room.

"Am I disturbing you?" she asked gently, as she stood by her father.

"No. I have finished writing." He laid down his pen.

"Another failure?"

"Yes."

When she was gone Beroviero shut the window carefully, and though the round bull's-eye panes let in the light plentifully, they effectually prevented any one from seeing into the room. The door was already closed.

"You have always been faithful to me," said the old man, laying his hand gently on Zorzi's shoulder. "I know what that means in this world."

"You have always been very good to me," replied Zorzi gratefully.

"I am going to trust you much more than hitherto," Beroviero continued. "My sons are grown men, independent of me, but willing to get from me all they can. If they were true artists, if I could trust their taste, they should have had my secrets long ago. But they are mere money-makers, and it is better that they should enrich themselves with the tasteless rubbish they make in their furnaces, than degrade our art by cheapening what should be rare and costly. Am I right?"

"Indeed you are!" Zorzi now spoke in a tone of real conviction.

"I am obliged to make a journey," continued Beroviero. "I shall entrust to you the manuscript secrets I possess. They are in a sealed package so that you cannot read them, but they will be in your care. If I leave them with any one else, my sons will try to get possession of them while I am away. During my last journey I carried them with me, but I am growing old, life is uncertain, especially when a man is travelling, and I would rather leave the packet with you. It will be safer."

"It shall be altogether safe," said Zorzi. "No one shall guess that I have it."

"No one must know. I would take you with me on this journey, but I wish you to go on with the experiments I have been making. We shall save

time, if you try some of the mixtures while I am away. When it is too hot, let the furnace go out."

Zorzi worked hard in the laboratory, minutely carrying out the instructions he had received, but reasoning upon them with a freshness and keenness of thought of which his master was no longer capable. When he had made the trials and had added the new ingredients for the future ones, he began to think out methods of his own which had suggested themselves to him of late, but which he had never been able to try. But though he had the furnace to himself, to use as long as he could endure the heat of the advancing summer, he was face to face with a difficulty that seemed insuperable.

The furnace had but three crucibles, each of which contained one of the mixtures by means of which he and Beroviero were trying to produce the famous red glass. In order to begin to make glass in his own way, it was necessary that one of the three should be emptied, but unless he disobeyed his orders this was out of the question. In his train of thought and longing to try what he felt sure must succeed, he had forgotten the obstacle. The check brought him back to himself, and he walked disconsolately up and down the long room by the side of the furnace. The furious desire to create, which is the strength as well as the essence

of genius, surged up and dashed itself to futile spray upon the face of the solid rock.

He stood still before the hanging shelves on which he had placed the objects he had occasionally made, and which his master allowed him to keep there — light, air-thin vessels of graceful shapes: an ampulla of exquisite outline with a long curved spout that bent upwards and then outwards and over like the stalk of a lily of the valley; a large drinking-glass set on a stem so slender that one would doubt its strength to carry the weight of a full measure, yet so strong that the cup might have been filled with lead without breaking it; a broad dish that was nothing but a shadow against the light, but in the shadow was a fair design of flowers, drawn free with a diamond point; there were dozens of these things on the shelves. He looked at the things, wishing that he had never made them, that he had never learned the art he was forbidden by law to practise.

The door opened suddenly and Giovanni entered. Zorzi turned and looked at him in silence. He was surprised, but he supposed that the master's son had a right to come if he chose, though he never showed himself in the glass-house when his father was in Murano.

"Are you alone here?" asked Giovanni, looking about him. "Do none of the workmen come here?"

"The master has left me in charge of his work," answered Zorzi. "I need no help."

Giovanni seated himself in his father's chair and looked at the table before the window.

"I do not understand how a man who is not a glass-blower can know enough to be left alone in charge of a furnace," said Giovanni, with a harsh little laugh.

Zorzi was silent. He did not think it necessary to tell how much he knew.

"What are you making?" he asked presently.

"A certain kind of glass," Zorzi answered.

"A new colour?"

"A certain colour. That is all I can tell you."

"You can tell me what colour it is," said Giovanni. "Why are you so secret? Even if my father had ordered you to be silent with me about his work, which I do not believe, you would not be betraying anything by telling me that. What colour is he trying to make?"

"I am to say nothing about it, not even to you. I obey my orders."

Giovanni was a glass-maker himself. He rose with an air of annoyance and crossed the laboratory to the jar in which the broken glass was kept, took out a piece and held it against the light. Zorzi had made a movement as if to hinder him, but he realized at once that he could not lay hands on his

master's son. Giovanni laughed contemptuously and threw the fragment back into the jar.

"Is that all? I can do better than that myself!" he said, and he sat down again in the big chair.

His eyes fell on the shelves upon which Zorzi's specimens of work were arranged. He looked at them with interest, at once understanding their commercial value.

"My father can make good things when he is not wasting time over discoveries," he remarked, and rising again he went nearer and began to examine the little objects.

Zorzi said nothing, and after looking at them a long time Giovanni turned away and stood before the furnace. The copper ladle with which the specimens were taken from the pots lay on the brick ledge near one of the 'boccas.' Giovanni took it, looked round to see where the iron plate for testing was placed, and thrust the ladle into the aperture, holding it lightly lest the heat should hurt his hand.

"You shall not do that!" cried Zorzi, who was already beside him.

Before Giovanni knew what was happening Zorzi had struck the ladle from his hand, and it disappeared through the 'bocca' into the white-hot glass within.

\* \* \* \* \*



The porter unbarred the door and looked out. Everything was quiet, and the shutters of the house were drawn together, but not quite closed. The flowers outside Marietta's window waved in the light breeze.

"Nella!" cried Pasquale, just as he was accustomed to call the maid when Marietta wanted her.

But no one looked out of the house. Pasquale called again, somewhat louder. The shutters of Marietta's window were slowly opened inward and Marietta herself appeared, all in white and pale, looking over the flowers.

"What is it?" she asked. "Why do you want Nella?"

"Your pardon, lady," answered Pasquale. "I did not mean to disturb you. There has been a little accident here, saving your grace."

"What has happened? Tell me quickly!"

"A man has had his foot badly burned — it must be dressed at once."

"Who is it?"

"Zorzi."

"Wait there a minute," she said, and disappeared quickly.

The porter heard her calling Nella from an inner room, and then he heard Nella's voice indistinctly. He waited before the open door.

Nella was a born chatterer, but she had her good qualities, and in an emergency she was silent and skilful.

"Leave it to me," she said. "He will need no surgeon."

In her room she had a small store of simple remedies, sweet oil, a pot of balsam, old linen carefully rolled up in little bundles, a precious ointment made from the fat of vipers, which was a marvellous cure for rheumatism in the joints, some syrup of poppies in a stumpy phial, a box of powdered iris root, and another of saffron. She took the sweet oil, the balsam, and some linen. She also took a small pair of scissors which were among her most precious possessions. She threw her large black kerchief over her head and pinned it together under her chin.

Marietta was waiting by the door. "Come, we are losing time." She opened the door and went out quickly.

Pasquale looked at Marietta, but said nothing until all three were inside. Then he took hold of Marietta's mantle at her elbow, and held her back.

"You must not go in, lady," he said. "It is an ugly wound to see."

Marietta pushed him aside quietly, and led the way. Nella followed her as fast as she could, and

Pasquale came last. He knew that the two women would need help.

It was a hideous wound.

"It will heal more quickly than you think," said Nella confidently. "The burning has cauterized it." And she set to work quickly and skilfully.

"You cannot stay here," Marietta said, turning to Zorzi. "You cannot lie on this bench all day."

"I shall soon be able to stand," answered Zorzi confidently. "I am much better."

"You will not stand on that foot for many a day," said Nella, shaking her head.

"Then Pasquale must get me a pair of crutches," replied Zorzi. "I cannot lie on my back because I have hurt one foot. I must tend the furnace, I must go on with my work, I must make the tests. Some one must help me with the work."

"There is no one but me," answered Marietta after a moment's pause. "There is no one else who knows enough about my father's work."

"That is true," said Zorzi.

"Lady," said Pasquale at last, and rather timidly, "I will take good care of him. I will get him crutches to-morrow. I will come in the daytime and keep the fire burning for him."

Marietta saw that she could not stay any longer at present, and she went once more to Zorzi's side.

"Let Pasquale take care of you to-day," she said.

"I will come and see how you are to-morrow morning."

"I thank you," he answered. "I thank you with all my heart. I have no words to tell you how much."

The porter kept his word, and took good care of Zorzi.

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From the narrow line into which the back door opened, Marietta emerged. "Come, Nella," taking her serving-woman by the arm, walking quickly across the wooden bridge towards the glass-house, and Nella trotted beside her mistress like a lamb, led by a string. Marietta tapped upon the door of the glass-house. It opened almost immediately and they disappeared within.

Marietta sent Pasquale on, to tell Zorzi that she was coming, and when she reached the laboratory he was sitting in the master's big chair, with his foot on a stool before him. As Marietta entered, he looked up with a grateful smile.

"You seem glad to see us after all," she said. "Yet you protested that I should not come to-day!"

"I cannot help it," he answered.

"If you will tell me which crucible to try," said Marietta, "I will make the tests for you. Then we can move the table to your side and you can prepare the new ingredients according to the writing."



Pasquale had left them, seeing that he was not wanted.

"I fear it is of little use," answered Zorzi, despondently. "Of course, the master is very wise, but it seems to me that he has added so much, from time to time, to the original mixture, and so much has been taken away, as to make it all very uncertain."

"I daresay," assented Marietta. "For some time I have thought so. But we must carry out his wishes to the letter, else he will always believe that the experiment might have succeeded if he had stayed here."

"Of course," said Zorzi. "We should make the tests of all three crucibles to-day, if it is only to make more room for the things that are to be put in."

"Where is the copper ladle?" asked Marietta. "I do not see it in its place."

"I have none — I had forgotten. Your brother came yesterday, and wanted to try the glass himself in spite of me. I knocked the ladle out of his hand and it fell through into the crucible."

"That was like you," said Marietta. "I am glad you did it."

"Heaven knows what has happened to the thing," Zorzi answered. "It has been there since yesterday morning. For all I know, it may have melted by this time. It may affect the glass, too."

"Where can I get another?" asked Marietta, anxious to begin.

Zorzi made an instinctive motion to rise. It hurt him badly and he bit his lip.

"I forgot," he said. "Pasquale can get another ladle from the main glass-house."

"Go and call Pasquale, Nella," said Marietta at once. "Ask him to get a copper ladle."

Nella brought the copper ladle. There were always several in the glass-works for making tests. Marietta took it and went to the furnace, while Nella watched her, in great fear lest she should burn herself. But the young girl was in no danger, for she had spent half her life in the laboratory and the garden watching her father. She wrapped the wet cloth round her hand and held the ladle by the end.

"We will begin with the one on the right," she said, thrusting the instrument through the aperture.

Bringing it out with some glass in it, she supported it with both hands as she went quickly to the iron table, and she instantly poured out the stuff and began to watch it.

"It is just what you had the other day," she said, as the glass rapidly cooled.

Zorzi was seated high enough to look over the table.

"Another failure," he said. "It is always the same. We have scarcely had any variation in the tint in the last week."

"That is not your fault," answered Marietta. "We will try the next."

As if she had been at the work all her life, she chilled the ladle and chipped off the small adhering bits of glass from it, and slipped the last test from the table, carrying it to the refuse jar with tongs. Once more she wrapped the damp cloth round her hand and went to the furnace. The middle crucible was to be tried next. Nella, looking on with nervous anxiety, was in a profuse perspiration.

"I believe that is the one into which the ladle fell," said Zorzi. "Yes, I am quite sure of it."

Marietta took the specimen and poured it out, set down the ladle on the brick work, and watched the cooling glass, expecting to see what she had often seen before. But her face changed, in a look of wonder and delight.

"Zorzi!" she exclaimed. "Look! Look! See what a colour!"

"I cannot see well," he answered, straining his neck. "Wait a minute! We have got it! I believe we have got it. Oh, if I could only walk!"

"Patience — you shall see it. It is almost cool. It is quite stiff now."

She took the little flat cake up with the tongs, very carefully, and held it before his eyes. The light fell through it from the window, and her head was close to his as they both looked at it together.

"I never dreamed of such a colour," said Zorzi, his face flushed with excitement.

"There never was such a colour before," answered Marietta. "It is like the juice of a ripe pomegranate that has just been cut, only there is more light in it."

"It is like a great ruby — the rubies the jewelers call 'pigeon's blood.'"

"My father always said it should be blood-red," said Marietta. "But I thought he meant something different, something more scarlet."

Nella came and looked too, convinced that the glass had in some way turned out more beautiful by the magic of her mistress's touch.

"It is a miracle!" cried the woman of the people. "Some saint must have made this."

The glass glowed like a gem and seemed to give out a light of its own. As Zorzi and Marietta looked, its rich glow spread over their faces. It was that rare glass which, from old cathedral windows, casts such a deep stain upon the pavement that one would believe the marble itself must be dyed with unchanging colour.



Marietta lowered her hand and turned the piece of glass sideways, to see how it would look.

"What shall we do with it?" she asked. "It must not be left any longer in the crucible."

"No. It ought to be taken out at once. Such colour must be kept for church windows."

"We had better let the fires go out," said Marietta. "It will cool in the crucible as it is."

"I would give anything to have that crucible empty, or an empty one in its place," answered Zorzi. "This is a great discovery, but it is not exactly what the master expected. I have an idea of my own, which I should like to try."

"Then we must empty the crucible. There is no other way. The glass will keep its colour, whatever shape we give it. Is there much of it?"

"There may be twenty or thirty pounds' weight," answered Zorzi. "No one can tell."

Nella listened in mute surprise. She had never seen Marietta with old Beroviero, and she was amazed to hear her young mistress talking about the processes of glass-making as familiarly as of domestic things.

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Nella went every other day and did all that was necessary for Zorzi's recovery. Zorzi went about on crutches, swinging his helpless foot as he walked.

He sought consolation in his art, and as soon as he could stand and move about with his crutches he threw his whole pent-up energy into his work. The accidental discovery of the red glass had unexpectedly given him an empty crucible with which to make an experiment of his own, and while the materials were fusing he attempted to obtain the new colour in the other two, by dropping pieces of copper into each regardless of the master's instructions. To his inexpressible disappointment he completely failed in this, and the glass he produced was of the commonest tint.

Then he grew reckless; he removed the two crucibles that had contained what had been made according to Beroviero's theories until he had added the copper, and he began afresh according to his own belief.

The very first test he took of the glass was successful beyond his highest expectations. He had grown reckless, and carried away by the love of the art and by the certainty of ultimate success which every man of genius feels almost from boyhood, he had deliberately attempted to produce the white glass for which Beroviero was famous. He followed a theory of his own in doing so, for although he was tolerably sure of the nature of the ingredients, as was every workman in the house, neither he nor they knew anything of the proportions in which

Beroviero mixed the substances, and every glass-maker knows by experience that those proportions constitute by far the most important element of success.

Zorzi had not poured out the specimen on the table as he had done when the glass was coloured; on the contrary he had taken some on the blow-pipe and had begun to work with it at once, for the three great requisites were transparency, ductility, and lightness. In a few minutes he had convinced himself that his glass possessed all these qualities in an even higher degree than the master's own, and that it was immeasurably superior to anything which the latter's own sons or any other glass-maker could produce. Zorzi had taken very little at first, and he made of it a thin phial of graceful shape, turned the mouth outward, and dropped the little vessel into the bed of ashes. He would have set it in the annealing oven, but he wished to try the weight of it, and he let it cool. Taking it up when he could touch it safely, it felt in his hand like a thing of air. On the shelf was another nearly like it in size, which he had made long ago with Beroviero's glass. There were scales on the table; he laid one phial in each, and the old one was by far the heavier. He had to put a number of penny-weights into the scale with his own before the two were balanced.

His heart almost stood still, and he could not believe his good fortune. He took the sheet of rough paper on which he had written down the precise contents of the three crucibles, and he carefully went over the proportions of the ingredients in the one from which he had just taken his specimen. He made a strong effort of memory, trying to recall whether he had been careless and inexact in weighing any of the materials, but he knew that he had been most precise. He had also noted the hour at which he had put the mixture into the crucible on Saturday, and he now glanced at the sand-glass and made another note. But he did not lay the paper upon the table, where it had been lying for two days, kept in place by a little glass weight. It had become his most precious possession; what was written on it meant a fortune as soon as he could get a furnace for himself; it was his own, and not the master's; it was wealth, it might even be fame. Beroviero might call him to account for misusing the furnace, but that was no capital offence after all, and it was more than paid for by the single crucible of magnificent red glass. Zorzi was attempting to reproduce that too, for he had the master's notes of what the pot contained, and it was almost ready to be tried; he even had the piece of copper carefully weighed to be equal in bulk with the ladle that had been melted. If

he succeeded there also, that was a new secret for Beroviero, but the other was for himself.

All that morning he revelled in the delight of working with the new glass.

While he warmed the end of his blow-pipe at the 'bocca' he looked to right and left to see where the working-stool and marver were placed, and to be sure that the few tools he needed were at hand, the pontil, the 'procello,' — that is, the small elastic tongs for modelling — and the shears. He pushed his blow-pipe into the melted glass and drew it out, let it cool a moment and then thrust it in again to take up more of the stuff.

The glass grew and swelled, lengthened and contracted with his breath and under his touch. At the exact moment when the work was cool enough to stand he attached the pontil with its drop of liquid glass to the lower end, put the long and heavy blow-pipe on the floor and held his piece on the lighter pontil, heating it again at the fire.

Zorzi's deft hands made the large piece he was forming spin on itself and take new shape at every turn, until it had the perfect curve of those slim-necked Eastern vessels for pouring water upon the hands, which have not even now degenerated from their early grace of form. While it was still very hot, he took a sharp pointed knife from his belt and with a turn of his hand cut a small hole, low down

on one side. The mouth was widened and then turned in and out like the leaf of a carnation. He left the cooling piece on the pontil, lying across the arms of the stool, and took his blow-pipe again.

Zorzi began to make the spout, for it was a large ampulla that he was fashioning. He drew the glass out, widened it, narrowed it, cut it, bent it and finished off the nozzle before he touched it with wet iron and made it drop into the ashes. A moment later he had heated the thick end of it again and was welding it over the hole he had made in the body of the vessel.

He went on to make the handle of the ampulla, an easy matter compared with the making of the spout. But the highest part of glass-blowing lies in shaping graceful curves, and it is often in the smallest differences of measurement that the pieces made by Beroviero and Zorzi — preserved intact to this day — differ from similar things made by lesser artists. Yet in those little variations lies all the great secret that divides grace from awkwardness. Zorzi now had the whole vessel, with its spout and handle, on the pontil. It was finished, but he could still ornament it. He began to take little drops of glass from the furnace on the end of a thin iron, and he drew them out into thick threads and heated them again and laid them on the body of the ampulla, twisting and turning each bit till he



had no more, and forming a regular raised design on the surface.

A marvellous dish with upturned edge and ornamented foot was the next thing he made, and he placed it at once in the annealing oven. Then he made a tall drinking glass such as he had never made before, and then, in contrast, a tiny ampulla, so small that he could almost hide it in his hand, with its spout, yet decorated with all the perfection of a larger piece. He worked on, careless of the time, his genius all alive, the rest a distant dream.

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Zorzi sat on a low bench, blackened with age, against the whitewashed wall of a small and dimly lighted room, which was little more than a cell, but was in reality the place where prisoners waited immediately before being taken into the presence of the Ten.

There were witnesses of all that had happened. There was Giovanni, whom the Governor had forced to appear, much against his will, as the principal accuser by the letter that had led to Zorzi's arrest, and the letter itself was in the hands of the Council's secretary. But there was also Pasquale, who could speak for his character; and Angelo Beroviero was there to tell the truth as far as he knew it.

Zorzi waited on his bench, listening to the tread of the guards.

At last the footsteps ceased, the key ground and creaked as it turned, and the door was opened. Two tall guards stood looking at him, and one of them motioned to him to come. A door was opened and closed after him, and he was suddenly standing alone in the presence of the Ten, feeling that he could not find a word to say if he were called upon to speak.

A kindly voice broke the silence that seemed to have lasted many minutes.

"Is this the person whom we are told is in league with Satan?"

It was the Doge himself who spoke, nodding his hoary head, as very old men do, and looking at Zorzi's face with gentle eyes, almost colourless from extreme age.

"This is the accused, your Highness," replied the secretary from his desk, already holding in his hand Giovanni's letter.

Zorzi saw that the Council of Ten was much more numerous than its name implied. The Councilors were between twenty and thirty, sitting in a semi-circle, against a carved wooden wainscot, on each side of the aged Doge, Christoforo More, who had yet one more year to live. There were other persons present also, of whom one was secretary,

the rest being apparently there to listen to the proceedings and to give advice when they were called upon to do so.

In spite of the time of the year, the Councillors were all splendidly robed in the red velvet mantles, edged with ermine, and the velvet caps which made up the state dress of all patricians alike, and the Doge wore his peculiar cap and coronet of office. Zorzi had never seen such an assembly of imposing and venerable men, some with long grey beards, some close shaven; all grave, all thoughtful, all watching him with quietly scrutinizing eyes. He stood leaning a little on his stick, and he breathed more freely since the dreaded moment had come at last.

Some one bade the secretary read the accusation, and Zorzi listened with wonder and disgust.

"What have you to say?" inquired the secretary, looking up from the paper with a pair of small and piercing grey eyes. "The Supreme Council will hear your defence."

"I can tell the truth," said Zorzi simply, and when he had spoken the words he was surprised that his voice had not trembled.

"That is all the Supreme Council wishes to hear," answered the secretary. "Speak on."

"It is true that I am a Dalmatian," Zorzi said, "and by the laws of Venice, I should not have

learned the art of glass-blowing. I came to Murano more than five years ago, being very poor, and Messer Angelo Beroviero took me in, and let me take care of his private furnace, at which he makes many experiments. In time, he trusted me, and when he wished something made, to try the nature of the glass, he let me make it, but not to sell such things. At first they were badly made, but I loved the art, and in a short time I grew to be skilful at it. So I learnt. Sirs—I crave pardon, your Highness, and you lords of the Supreme Council, that is all I have to tell. I love the glass, and I can make light things of it in good design, because I love it, as the painter loves his colours and the sculptor his marble. Give me glass, and I will make coloured air of it, and gossamer and silk and lace. It is all I know, it is my art, I live in it, I feel in it, I dream in it. To my thoughts, and eyes and hands, it is what the love of a fair woman is to the heart. While I can work and shape the things I see when I close my eyes, the sun does not move, the day has no time, winter no clouds, and summer no heat. When I am hindered I am in exile and in prison, and alone.”

The Doge nodded his head in kindly approbation.

“The young man is a true artist.”

“Have you anything more to say?” asked the secretary, again speaking to Zorzi.

"I have said all, save to thank your Highness and your lordships with all my heart," answered the Dalmatian.

"Withdraw, and await the decision of the Supreme Council."

It seemed a long time before the tread of the guards ceased again and the door was opened, and Zorzi rose as quickly as he could when he saw that it was the secretary of the Ten who entered, carrying in his hand a document which had a seal attached to it.

"Your prayer is granted," said the man with the sharp grey eyes. "By this patent the Supreme Council permits you to set up a glass-maker's furnace of your own in Murano, and confers upon you all the privileges of a born glass-blower, and promises you especial protection if any one shall attempt to interfere with your rights."

Zorzi took the precious parchment eagerly, and he felt the hot blood rushing to his face as he tried to thank the secretary, but in a moment the busy personage was gone, after speaking a few words to the guards, and Zorzi heard the rustling of his silk gown in the corridor.

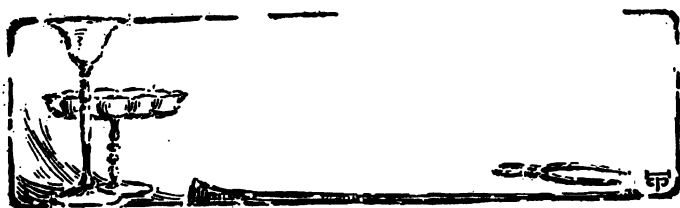
"You are free, sir," said one of the guards very civilly, and holding the door open.

Zorzi went out in a dream, finding his way he knew not how, as he received a word of direction

here and there from soldiers who guarded the staircases. When he was aware of outer things he was standing under the portico that surrounds the courtyard of the ducal palace.

Two steps away Pasquale stood, in his best clothes and his clean shirt, for he had been one of the witnesses, and he was firmly planted on his bowed legs, his long arms hanging down by his sides; his little red eyes were fixed on Zorzi's face, his ugly jaw was set like a mastiff's, and his extraordinary face seemed cut in two by a monstrous smile of delight.

Taken from *Marietta*, by Francis Marion Crawford, published by The Macmillan Company.





# POTTERY

*From Brunel's Tower*

BY

EDEN PHILLPOTTS

Harvey ran away from a reformatory, threw his stone-weighted clothes into the water, put on those of a scarecrow, for disguise, and sped, hot-foot, across country, and took refuge in the Pottery. Here he was accepted as an apprentice, and learned the trade, at the same time learning how to become a man who was willing to lay down his life for his friend.

Eden Phillpotts, the author of *Brunel's Tower*, is an English novelist who was born in India. He writes chiefly about the Devonshire region, in England.

*For adults.*

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## POTTERY

A TALL, thin boy was stealing turnips, and chance sending a man to look over a gate, that accident determined the whole future life of the turnip-stealer, and opened the way to preliminary passages therein of an exciting nature. When the man at the gate climbed over it, hailed him as a "rogue," and hastened towards him, the boy bolted, with the bored air of a fox, who thinks that he has thrown off the hounds and yet again hears them baying on his tracks. He had run far, but now he had to run once more. He wore gray trousers, well caked with mud, that had taken a gloss where the legs of them rubbed together. A leathern belt held them up; and for the rest he was clad in a flannel shirt, open at the neck, and a coat of rags. This last, until the night before, belonged to a scarecrow, for the boy had discarded his own twenty good miles up the country. The exchange was of real rather than apparent advantage. Now he began to run again, and he ate a turnip while he ran, for his stomach was empty and craved filling. At a gap in the hedge he went through, and reached a lane

that extended beside the field. For a moment he waited to see if still pursued.

The lane opened on to a highroad, and the road was empty. He followed it, therefore, and before the pursuer had emerged upon it, he turned again, where a bypath opened off on the other side. It led beneath an avenue of fir-trees to a huddle of buildings that clustered round about a tower. Right ahead of him was a glass door, and to the right, where a blunger stood against the side of the pottery and all the place was stained and spattered with red mud, there opened a great door into darkness. The promise of darkness and possible peace appealed to his bewildered senses, and he plunged into the gloomy aperture, as a hunted rat plunges into a strange hole.

Accident so ordered his entry that none saw it, and although he now entered the portals of a hive where there worked near a half hundred men and boys, not one for the space of ten seconds was visible — a time sufficient to give the intruder safe hiding.

For a moment the great chamber into which he plunged seemed dark, but a fan of light fell from the doorway and showed a mighty mound of coal piled in the midst. This gleamed red on one side, white upon the other ; while behind it all was infinitely black. Into the gloom the lad stumbled, proceeded as far as he was able, and finally flung himself down.

He looked about him, and his eyes were tamed to the darkness and began to see. Dim daylight did not lack, where a small semi-circular window, high aloft, let fall a straight shaft of velvety brightness from above. It came slantwise down, struck the ragged mound of coal, and oozed out in a disk upon the earthen floor. Behind this circle of light arose the mighty mass of a kiln — a brick pile all clamped and bound with steel that ascended half-way to the roof. Beneath, along the begrimed floor, opened the mouths of the furnaces, six in number, and three were dark, while three glared like huge red eyes out of an open setting. Their iron bars were red hot, and behind them a terrific incandescence blazed and lit the surrounding gloom with its fiery glow.

In the midst of the great floor lay fifty tons of coal, with many faggots of brushwood, and round about — some empty, some laden with the earthenware for the kilns — stood the potters' six-foot boards. A flight of wooden stairs ascended from the furnace-room, and other doorways opened upon the north and east of it. The grating pulses of machinery throbbed at hand, mingling with the steady breath of the fire.

There came now men and boys with tins of food, and set them on the ovens; for the dinner-hour was near, and a row of little vessels soon simmered and



steamed nigh the furnaces. Then all be brayed; the endless belts that ran from a steam-engine to the wheels and lathes aloft revolved no more; the engine stopped its panting, and work ceased.

Twenty men trailed down the steps and emerged from the doors. Some passed through the furnace-house, and departed on bicycles or on foot; others settled within the genial glare of the fires, and turned attention to tins and basins which held the midday meal. The unseen boy peered out of the darkness and sniffed the food. He listened while talk ran among the workers.

The engine-man, Jeremiah Tolley, was tall and sallow, with black hands and bright, kindly eyes. He controlled the blunger, too, and mixed the clay — labor that stained his "overalls" and jacket to redness. He sat beside Sam Punchard, a master fireman. He also was sallow, and the nature of his calling, where he circled in the heat of the furnaces, brought forth a permanent moisture on his brow. His face shone with heat, and his black beard, turning to gray, also shone. When he opened a furnace-door the light rolled out upon him in a flood, and his lean grimy figure was transformed so that he seemed to glow red hot. He slept little, and was well pleased to sit up with his furnaces three nights a week. There, through the long hours of darkness, he dwelt in that ebony cave,

shovelling coal, regulating the temperature of his ovens, and taking a trial now and then to mark the progress of the baking.

Of late the fire-tortured kilns had been rebuilt, and now Tolley asked the fireman if he was satisfied.

"The ware tells you better than what I can," answered Mr. Punchard. "I don't want to see anything better, and nothing better could be seen."

A mood of cheerfulness animated the group, for Christmas was near, and it so fell that five holidays would come together. The works were destined to close upon a Tuesday, and not open again till the following Monday.

They chaffed a newcomer who had been tried in various departments and found wanting. He was a fair lad, with a face of unconquerable good-humour and the frame of an athlete.

"And what might you be doing now, Jack Ede?" asked Mr. Tolley. "Since you left the presses, I ain't seen much of you; but I heard you was busy breaking things in the packing-room."

Jack Ede denied that he was breaking crockery in the packing-sheds.

"I'm along with you, ain't I, Mr. Coysh?" he asked; and Timothy Coysh made answer. He was an elderly, full-bodied man, with a jolly face and a blue chin, and he wore a blue jersey, like a sailor's.

"Yes, Jack's at the tea-pot spouts along with me. I don't say as I'll never teach him to make 'em, but I haven't given up hope."

"I'd sooner make the handles," ventured Jack; whereupon one Rupert Marsland, a "handler" and painter, laughed him to scorn.

Marsland was young, and entertained a cheerful conceit of himself. He had set the handles to many hundreds of teapots with accuracy and perfection. Perhaps there was not a man in England who could handle a pot better than he did.

"You to think you can handle!" he said. "I'd like to see those leg-of-mutton paws rolling clay for handles!"

"It's Craft, Rupert — skilled craft," said the fireman. "Quite a clever little job in its way, but no more to be named alongside Godbeer's work on the lathe, than you are worthy to be named alongside us."

"The clay's first," said Mr. Body. "The clay's first and last — the beginning and the middle and the end of pottery. Then comes us, that do for it; and 'tis a nice question how we stand to it. 'Tis a sort of king be the clay, if you ask me, and we're the servants — some small, some great."

"And each of us thinks his job's the most important — and quite right, too," declared Godbeer.

He spoke in jest, but when the assertion was examined it seemed that the turner had hit the truth. Billy Godbeer, the son of the turner, ground copper in a stone mortar, then winnowed it through a fine lawn. The copper came in all shapes to Brunel's Tower. Old kettles or rivets, or any scraps or shavings of the metal answered the purpose here. The pieces were put into a sagger of fireclay and then subjected to the greatest heat of the kilns. They melted, cooled again, and reappeared presently in a rotten crust. This was pulverized until it became a purple dust. Then, with addition of red and white lead, of china stone and ground flint, it produced the famous green glaze of the pottery, a colour lustrous and rich and unmatched on West-Country ware.

They argued each for himself in great good-humour, and none convinced another.

Then fell diversion, for a sudden noise appeared to break from the heart of the heap of coal beside them, and a white face looked out of the darkness. Fire struck on the runaway's countenance and revealed his features.

"Who the mischief are you?" cried Punchard, as the boy scrambled over the coals and stood before them.

"Give me a bite, for the Lord's sake, master, then I'll tell you. I've been watching you chaps.



feast, and — I've had nothing but a turnip for two days."

"A worthless dog, I'll warrant," declared Mr. Punchard; but he left the last morsels of his pudding at the bottom of a basin and handed it to the boy. They were gone in a moment.

"Thank you for that," said the stranger. "Who comes next? No decent offer refused."

His eyes were bright and his face thin. The red glow from the ovens showed a hollow in his cheeks, revealed his thin arms and legs, and gleamed on his round, closely cropped head. His mouth was hard and strong, his forehead high. He stared them out of countenance. One might have perceived that this boy of seventeen possessed a stronger will than most of his hearers.

But he was civil enough and grateful enough for the scraps they cast to him. He ate everything that could be eaten; gnawed the bone of God-beer's chop; sucked the gravy from a tin that had held Thomas Body's stew; finished Rupert Marsland's bread and cheese, and consumed an apple Jack Ede threw to him.

While he ate he repeated his thanks.

"I'm obliged, I'm sure," he said. "I've never been hungry before yesterday, and it's a queer sort of feeling — takes you in the middle and makes you feel as if you was falling in half."

"And how did you come to it, and where have you run from?" asked Godbeer. "No use for you to tell us you haven't run away from somewhere, because we all know very well you have."

The boy looked at them out of the corners of his dark brown eyes. For a moment he did not answer.

"You'd best speak up," declared the engine-man.

"And tell us," added Punchard, "firstly your name, and, secondly, where you've come from, and, thirdly, why you done it."

"So I will, then," answered the lad, with sudden frankness. "My name's Harvey Porter, and I've run away from a workhouse; and who wouldn't?"

"That ain't a workhouse coat," said Ede.

"No — I got it off a scarecrow up Exeter way. I wasn't going to be given away by a coat. Their jacket is at the bottom of the river with a stone in it. And I don't know where I've reached to more than Adam. I thought I'd keep on going till I got to the sea, and then trust to luck."

They told him where he was, and he evinced a strong desire to go no further.

"All I want is work, and by the look of it the work here's terrible interesting," he said.

The remark pleased Mr. Body.

"You've got sense seemingly," he answered.

"And you speak truer than you know."

Porter declared that he would much like to stop

among them. "George Easterbrook," asserted Samuel Punchard, as he stoked a furnace and slabbed moisture over the sealed mouth of an oven to test the heat, "George Easterbrook would think no worse of you for running away from a workhouse; but that's not to say he's got any use for another boy. There's six of the toads here now."

Porter considered:

"Would it be any harm if I went before the master? Would he see me?"

"He'd see you," declared Godbeer, "and then you'll see a man that is a man."

"I'm never afraid of a man," answered the youth. "There weren't no men where I came from — only slave-drivers. Take me before your master." Then he turned to Punchard:

"You're the head man, I reckon. Won't you do it?"

"Yes, that's so" admitted the fireman, not ill pleased at the recognition. "But as to taking a scarecrow —"

"If you don't, I'll see him on my own," said Porter.

"Come on, then, you masterful rip!" he said, and marched out of the dark chamber into the air with Porter at his heels.

"Well, Punchard, and what do you want?" asked George Easterbrook.

He sat behind his desk in his office — a small chamber of somewhat distinguished appearance.

Samuel Punchard was a favorite, and knew it. The head fireman possessed rare gifts. His work was of vital importance, for to understand the process of lifting a kiln to its limit of heat and controlling temperatures that ranged two thousand degrees was a craft that called for peculiar skill, and a sort of intuition denied to most. The fate of every crock depended upon Mr. Punchard, and he enjoyed proportionate respect and emolument. He was scrupulous, proud of his importance, and took himself with becoming seriousness.

"'Tisn't what I want — 'tis what this boy wants, Mr. Easterbrook."

"Leave him," said the master. "I'll talk to him."

Punchard departed; and, after studying Porter's countenance a moment longer, Easterbrook spoke.

His first word was one of kindness:

"Sit down on that chair, and tell me why you stole turnips."

The boy on his side was measuring the speaker. His wits worked, and his knowledge of man — wide for his years — told him what he wanted to learn. He considered, then answered:

"I was starving hungry, sir, and I had to eat something, or I'd have dropped down. I've run

away from a workhouse up the country. They kept me to dog's work, and I wouldn't stand it. I want to learn to do clever things, and they kept me down and wouldn't give me a helping hand. I'm ready to go heart and soul at anything. I'm quick with my hands, and I want to train 'em to something that calls for more cleverness than breaking stones."

"They'll find you."

The boy grinned and showed very white teeth.

"Not if you don't give me up, sir."

"I sha'n't give you up — that's not my business."

"I'm terrible wishful to find a friend to give me a chance." He spoke with art, and Easterbrook was dimly aware of it. The boy's eyes had been fixed on one of the frames of medals. He touched it, and then sat down again.

"'Twas a bit askew," he said.

Presently, seeking Punchard, Easterbrook went out into the works.

"Has your lodger gone?" he asked the engine-man.

"He's gone."

"Then take in this boy and let him begin outside to-morrow. One week this boy can work, and at the end of it I'll hear what you have got to say. A penny an hour he shall have; and tell him to get a decent coat and hat before to-morrow."

Next morning, through the dimpsy light, Porter, in Mr. Tolley's old coat, set forth beside the engine-man at six o'clock.

The pottery rose grey through the low mists of dawn, and Brunel's Tower, with the great silvery planes of the main roof beneath it, resembled a house of prayer rather than a house of work.

"For all the world like a church," said Porter. "It rises up among the trees with the green fields round it. You'd never think it was what it is."

"Wait till the steam and smoke's flying," answered Mr. Tolley. "Here's Sam Punchard, you see; he's going home now for a rest, because he was up with the furnaces all last night, but now the work's done and the kilns are cooling. Morning, Samuel!"

"Morning, Jeremiah."

"Kilns working all right?"

"Amazing well."

"We've just had our kilns rebuilt," explained Mr. Tolley. "The solid fire-brick is eaten away in time, and melts and coats the inside of the kilns with glass; but now all's made new, and Mr. Punchard's doing wonders."

At seven o'clock they were at work, and Tolley explained his duties.

"Don't ask the reasons for nothing at first," he said. "You do just exactly what you're told, and then you can know the reason after if you want to."

"I'll find the reasons for myself," answered Porter; "there's nothing so interesting to me, Mr. Tolley, as finding the reasons for things."

Mr. Tolley showed him a heap of mud, and then conducted him to a cutting in a field not far distant, where another clay seam ran through a meadow. Like a red gash it cut the green, and above it, under hedgerows where the elms shone touched to gold through the gray mist, were ewes. A man stood in a cart and flung out turnips to them.

"'Tis a wonderful thing to work at skilled labor in the midst of the country," said the boy. "I never thought of machinery and steam and suchlike in such a place as this."

"Don't let your mind run on, nor your tongue neither," answered the other. "Turn over that wheelbarrow, and list to me."

Porter learned that the clay from the field held the sand and was "short," and that the clay from the mound beside the works was "fat."

"You mix 'em, and they stand together and help each other," explained Mr. Tolley. "The two sorts shrink differently under heat, and the fat clay shrinks too much by itself, so we add the short clay to it — not half and half, but two to one. Now fill the barrow and fetch it along."

He watched and marked that Porter had never used a spade until now. He then showed him how

to cut out the clay to the best advantage, and followed him with the barrow.

"Don't put aside the crocks," said Tolley, when they returned to the mound beside the works. "The broken stuff's clay still. We grind it up again along with the rest. This machine's the blunger — it's here the clay begins, you may say. We fling it in 'short' and 'fat,' and the wheels inside revolve by steam, and churn the stuff up with water until all's liquid as a puddle in the road."

The blunger, which stood clay-stained — a huge red splash on the outer wall of the work — was filled presently. When Tolley had got up steam, he set it in motion, while Porter watched the mass worked with water into liquid.

The boy evinced pleasure in seeing the red earth dominate him, creep over him, stain his trousers, spatter his shirt, and ruddy his arms and hands.

"I'll soon be as red as anybody!" he declared.

He worked hard, but was too slightly built for the draught of the wheelbarrow. This he swiftly discovered, and modified his methods accordingly.

After dinner Mr. Tolley revealed a further process, and showed how the liquid clay passed from the blunger through a little sieve called the "lawn."

"Every pot on the works, from the latest penny toys to the great vases that Mr. Pitts decorates, have flowed through that," he explained. "'Tis

just a bit of copper gauze — so fine that there's very near a hundred mesh to the square inch. The clay goes through in particles so small that your eyes couldn't see 'em separate; and then they come together and pour into the settling-pit inside, and there they settle for twenty-four hours, and then you call the clay 'slip.'"

Porter's power of observation was great, and when the general principles of Mr. Tolley's work had been explained to him, he concentrated on those duties the engine-man demanded. He proved willing and expeditious. It was his speed that impressed Jeremiah, for in his experience the quick boy was often careless, and he cautioned his new assistant more than once to go slower. In truth, the work of the engine, blunger, and settling-trough was not of a sort to tax anything but Porter's physical strength. He had mastered it after two days at the pottery, and was stoking efficiently under Jeremiah's eye on the third day.

The more complicated machinery of the press took longer, but the boy soon perceived how the clay, after settling as "slip" to the constituency of liquid cream in the vat, was sucked therefrom by a steam-pump and forced into the clay press. Here stood a square wooden chest of sixteen compartments, held together by steel rods; and through a nozzle into each chamber the pump pressed the

fluid "slip." Within the press were packed coarse canvas cloths, to catch the clay, and a full press, when opened, produced half a ton of perfected clay, which broke out from the cloths in stiff cakes, the colour of chocolate.

Porter took immense interest in this machine. Harvey now followed the clay from the press to the pug-mill. Here the slabs were crushed again, minced to pulp, and poured forth, like a glacier oozing over a moraine, to be stored in cellars.

There remained only to regulate the clay for the throwers and moulders in their shops above, and this work involved physical exercise that pleased the new boy. He vied with Charlie and the others at wedging the clay, and struggled with lumps of twenty and thirty pounds, which were mauled and beaten on a board faced with tin, cut to pieces, and massed together again, until finally welded of even texture, free from air.

At the end of the week he received his money, and was informed that he might go on for another week at the same wages if he wished to do so. He thanked Easterbrook with a flash of genuine emotion.

"D'you like the work?" asked the master.

"I want to master it."

"Do you like it?"

The boy hesitated.

"Yes, I do then, because I'm wishful to go into the higher branches."

Easterbrook, not ill pleased that the youth should manifest a will so keen to learn, spoke before ascending to the throwing room.

"Go on as you're going for a week," he said, "and maybe I'll let you go round the works. If you've got the wits and want to follow the clay through, you shall."

"I'd like to perform more than he'd expect," said Porter, and the fireman laughed.

"The first thing is to do just exactly what you're told to do — all the time and every time. And, for that matter, if you do so much as that, you'll astonish him, no doubt, because he understands boys so well as men, and the human boy that's obedient every time don't happen. Now I'm going to take a trial."

Samuel approached the plastered side of the kiln where the wall was built up after the packing of the oven. One brick stood out from the rest, and this he now removed. Porter peered in, and saw the interior rendered visible by its own fiery light. A terrific heat encompassed the oven, and the unseen flames that roared through the flues above and below turned all to a rosy-red splendour. Every pot and batt, from top to bottom of the close-packed oven, ragged white-hot and almost transparent.

One rich splendour of glowing colour flowed through the mass, and it seemed impossible that earth could stand the impact of such a temperature without crumbling to dust.

Mr. Punchard thrust in an iron rod and transfixed a small red-hot fragment placed ready for the purpose. He drew it forth, then another; and next he thrust back the brick into the wall, that no degree of the two thousand degrees within the oven should be lost.

Porter watched the clay cool, and as the red fire died out of it, there flashed upon its face bright colours under the polish of the glaze.

The sight attracted him, but he forgot the lesser interest of his own experience in the great interest of what the cooling clay told Mr. Punchard. Not the glaze, not the colours, but the tone of the red earth itself was Samuel's concern.

"A good trial," he said. "The new kilns are doing proper wonders. But we're not hot enough yet. Let me see you stoke the furnace, Harvey Porter."

Taken from *Brunel's Tower*, by Eden Phillpotts, published by The Macmillan Company.





# CIGAR-MAKING

From *V. V.'s Eyes*

BY

HENRY SYDNOR HARRISON

A young slum doctor in a southern city works against all odds for better health and more endurable working conditions among the city's toilers. Among the small circle of people who are drawn to his leadership, through the inspiration of his devotion and enthusiasm or through his compelling belief in their innate goodness of heart, is a beautiful but worldly girl, who is gradually led from a life of unthinking, selfish pleasure to a sense of responsibility and then to an interest in her father's cigar factory and employees — an interest which has far-reaching consequences.

Henry Sydnor Harrison, author of *V. V.'s Eyes*, *Queed*, and other writings, was born in Tennessee, and lives in West Virginia.

*For adults.*



## CIGAR-MAKING

"THERE it is. . . . Confess, Hugo, you're surprised it's so small." The car came to a standstill, but Hugo helped no new-thoughter to belittle honest business.

"Unlike some I could mention, I've seen factories before," quoth he. "I've seen a million dollar business done in a smaller plant than that."

Actually Cally found the Works bigger than she had expected; gazing at the weather-worn old pile, spilling dirtily over the broken sidewalk, she was struck and depressed by it.

"You'll get intensely interested and want to stay hours!" said she, with the loud roar of traffic in her ears. "Remember I only came for a peep — just to see what a Works is like inside."

Hugo, guiding her over the littered sidewalk to the shabby little door marked "Office," swore that she could not make the peep too brief for him.

The visitors fell into the hands of Mr. MacQueen. MacQueen was black, bullet-headed, and dour. He had held socialistic views in his fiery youth, but had changed his mind like the rest of us when

he found himself rising in the world. In these days he received a percentage on the Works' profits, and cursed the impudence of Labor. As to visitors, his politics were that all such had better be at their several homes, and he indicated these opinions to Miss Heth and Mr. Canning. He even cited them a special reason against visiting to-day; new machines being installed, and the shop upset in consequence. However, he did not feel free to refuse the request outright, and when Canning grew a little sharp — the sour vizier yielded, though with no affectation of good grace.

"Well, as ye like then. . . . This way."

And he opened a door with a briskness which indicated that Carlisle's expressed wish "just to look around" should be carried out in the most literal manner.

The opening of this door brought a surprise. Things were so unceremonious in the business district, it seemed, that you stepped from the superintendent's office right into the middle of everything, so to speak.

Cally, of course, had had not the faintest idea what to expect at the Works. She had prepared herself to view horrors with calm and detachment, if such proved to be the iron law of business. But, gazing confusedly at the dim, novel spectacle that so suddenly confronted her, she saw nothing of the

kind. Her heart, which had been beating a little faster than usual, rose at once.

Technically speaking, which was the way Mr. MacQueen spoke, this was the receiving- and stemming-room. It was as big as a barn, the full size of the building, except for the end cut off to make the offices. Negroes worked here; negro men, mostly wearing red undershirts. They sat in long rows, with quick fingers stripping the stems of the not unfragrant leaves. These were stemmers, it was learned. Piles of brown tobacco stood beside each stemmer, bales of it were stacked, ceiling-high, at the farther end of the room, awaiting their attentions. The negroes eyed the visitors respectfully. They were heard to laugh and joke over their labors.

Down the aisle between the black rows, Cally picked her way after Hugo and Mr. MacQueen. The busy colored stemmers were scarcely inviting to the eye; the odor of tobacco soon grew a little overpowering; there were dirt and dust and an excess of steam-heat — "Tobacco likes to be warm," said MacQueen. And yet the dainty visitor's chief impression, somehow, was of system and usefulness and order, of efficient and on the whole well-managed enterprise.

The inspecting party went upward, and these heartening impressions were strengthened. On the

second floor was another stemming-room, long and hot like the other; only here the stemming was done by machines — “for the fancy goods” — and the machines operated by negro women. They were middle-aged women, many of them, industrious and quite placid looking. Perhaps a quarter of the whole length of the room was prosaically filled with piled tobacco stored ready for the two floors of the stemmers.

Cally had been observing Hugo. He had not wanted to come at all, but now that they were here he exhibited an intelligent interest in what he saw. Oddly enough, he appeared to know a good deal about the making of cigars, and his pointed comments gradually elicited a new tone from MacQueen, who was now talking to him almost as to an equal.

“Learning exactly how a cheroot factory ought to be run?” he asked, as they left the second floor.

“Oh, exactly! . . . For one thing, I’d recommend a ventilator or two, shouldn’t you?”

Progress upward was by means of a most primitive elevator, nothing but an open platform of bare boards, which Mr. MacQueen worked with one hand, and which interestingly pushed up the floor as one ascended. As they rose by this quaint device, Carlisle said:

“Is this next the bunching-room, Mr. MacQueen?”

“It is, Miss.”

"Bunching-room!" echoed Hugo, with satiric admiration, "you are an expert. . . ."

The lift-shaft ran in one corner of the long building. Debarking on the third floor, the visitors had to step around a tall shining machine, not to mention two workmen who had evidently just landed it.

Hugo pointed with his stick, observed; "Clearing in new floor-space, I see."

MacQueen nodded. "Knocked out a cloak-room; our fight here's for space. Profits get smaller all the time. . . ."

The visitors squeezed around the new machines and, doing so, stepped full into the bunching-room. And the girl saw at one glance that this was the strangest, the most interesting room she had ever seen in her life.

Her first confused sense was only of an astonishing mass of dirty white womanhood. The thick hot room seemed swarming with women, alive and teeming with women, women tumbling all over each other wherever the eye turned. Tall, clacking machines ran closely around the walls of the room; down the middle stood a double row of tables; and at each machine, and at every possible place at the tables, sat a woman crowded upon a woman, and another and another.

Dirt, noise, heat, and smell; women, women, women. Conglomeration of human and inhuman

as the eyes of the refined seldom look upon. . . . Was this, indeed, the pleasantest place to work in town? . . .

"Bunching and wrapping," said MacQueen. "Filler's fed in from that basin on top. She slips in the binder—machine rolls 'em together. . . . Ye can see here."

They halted by one of the bunching-machines, and saw the parts dexterously brought together into the crude semblance of the product, saw the embryo cigars thrust into wooden forms which shape them yet further for their uses in a world asmoke. . . .

"Jove! Watch how her hands fly!" said Hugo. "Look, Carlisle."

Carlisle looked dutifully. It was in the order of things that she should bring Hugo to the Works, and that, being there, he should take charge of her. But, unconsciously, she soon turned her back to the busy machine, impelled by the mounting interest she felt to see bunching, not in detail, but in the large.

Downstairs the workers had been negroes; here they were white women.

"Three cents a hundred," said MacQueen's rugged voice.

There was a fine brown dust in the air of the teeming room, and the sickening smell of new tobacco. Not a window in the place was open,

and the strong steam heat seemed almost overwhelming. The women had now been at it for near nine hours. Damp, streaked faces, for the most part pale and somewhat heavy, turned incessantly toward the large wall-clock at one end of the room. Eyes looked sidewise upon the elegant visitors, but then the flying fingers were off again, for time is strictly money with piecework. How could they stand being so crowded, and couldn't they have any air?

"Oh, five thousand a day — plenty of them."

"Five thousand! How do they do it?"

"We had a girl do sixty-five hundred. She's quit. . . . Here's one down here ain't bad."

The trio moved down the line of machines, past soiled, busy backs. Close on their left was the double row of tables, where the hurrying "wrappers" sat like sardines. Cally now saw that these were not women at all, but young girls; girls mostly younger than herself, some very much younger. Only they seemed to be girls with a difference, girls who had somehow lost their girlhood. Yet some of them were pretty, beneath dust and fatigue.

"This one can keep three wrappers pretty busy when she's feeling good. Ye'll see the wrappers there, in a minute."

This one was a tall, gaunt, sallow girl, who handled her machine with the touch of a master,

eliminating every superfluous move and filling a form of a dozen cheroots quickly enough to take a visitor's breath away. No doubt it was very instructive to see how fast cheroots could be made.

"How do they keep it up at this clip nine hours?"

"Got to do it, or others will."

"You expect each machine to produce so much, I suppose?"

"Now, here's wrapping," said MacQueen. "Hand work, you see." At that moment Carlisle touched Canning's well-tailored arm.

"Let's go. . . . It's stifling here."

Taken from *V. V.'s Eyes*, by Henry Sydnor Harrison, published by Houghton Mifflin Company.



# THE STOCK-YARDS

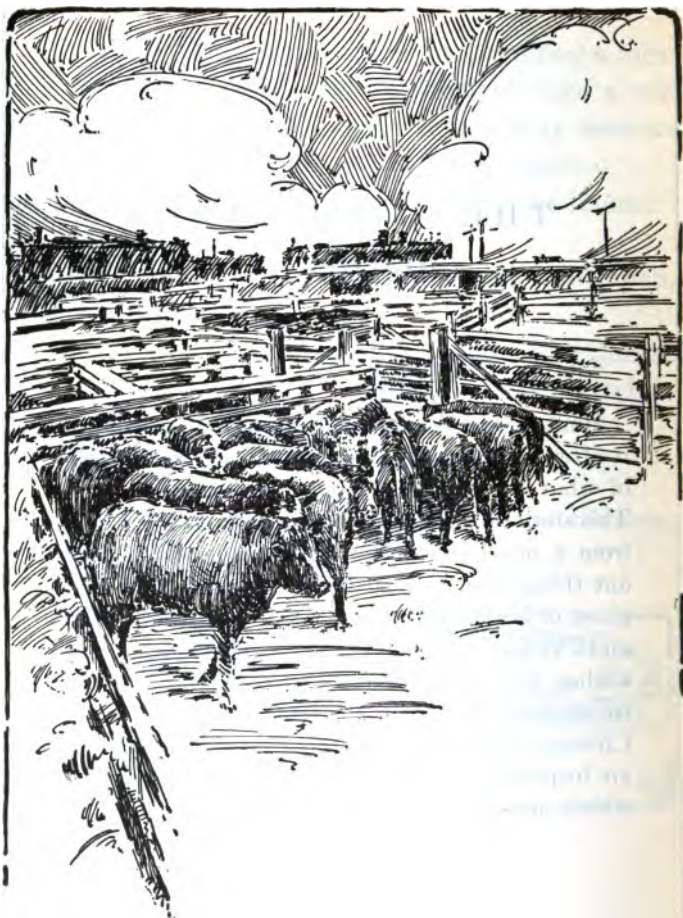
From *The Jungle*

BY

UPTON SINCLAIR

Hunters and fishers kill their own game and eat it afterwards, but most people do not like to think of what happens before meat comes to the table. This story of the way our meat is prepared is taken from a novel called *The Jungle*, the most unpleasant things being omitted, but the true story being given of beef and pork with their by-products, lard, and violin strings. Upton Beall Sinclair, the author, is a socialist, and he wrote the book in order to awaken interest in the great packing houses of Chicago, and to induce the government to make an inspection of the precincts, and the conditions which surrounded the workers.

*For adults, only.*



## THE STOCK-YARDS

It was early morning, and everything was at its high tide of activity. A steady stream of employees was pouring through the gate — employees of the higher sort, at this hour, clerks and stenographers and such. For the women there were waiting big two-horse wagons, which set off at a gallop as fast as they were filled. In the distance there was heard the lowing of cattle, a sound as of a far-off ocean calling. The visitors followed it. They crossed the railroad tracks, and then on each side of the street were the pens full of cattle; they would have stopped to look but Jokubus their guide hurried them on, to where there was a stairway and a raised gallery, from which everything could be seen. Here they stood, staring, and breathless with wonder.

There is over a square mile of space in the yards, and more than half of it is occupied by cattle-pens; north and south, as far as the eye can reach there stretches a sea of pens. And they were all filled — so many cattle no one had ever dreamed existed in the world. Red cattle, black, white, and yellow



cattle; old cattle and young cattle; great bellowing bulls and little calves not an hour born; meek-eyed milch cows and fierce, long-horned Texas steers. The sound of them here was as of all barnyards of the universe; and as for counting them — it would have taken all day to simply count the pens. Here there ran long alleys, blocked at intervals by gates; the number of these gates was twenty-five thousand.

Here and there about the alleys galloped men upon horseback, booted, and carrying long whips; they were very busy, calling to each other, and to those who were driving the cattle. They were drovers and stock-raisers, who had come from far states, and brokers and commission merchants, and buyers for all the big packing-houses. Here and there they would stop to inspect a bunch of cattle, and there would be a parley, brief and business-like. The buyer would nod or drop his whip, and that would mean a bargain; and he would note it in his little book, along with hundreds of others he had made that morning. Then Jokobus pointed out the place where the cattle were driven to be weighed, upon a great scale that would weigh a hundred thousand pounds at once and record it automatically. All along the east side of the yards ran the railroad tracks, into which the cars were run, loaded with cattle. All night long this

had been going on, and now the pens were full; by to-night they would all be empty, and the same thing would be done again.

There were two hundred and fifty miles of track within the yards. They brought about ten thousand head of cattle every day, and as many hogs, and half as many sheep — which meant some eight or ten million live creatures turned into food every year. One stood and watched, and little by little caught the drift of the tide, as it set in the direction of the packing-houses. There were groups of cattle being driven to the chutes, which were roadways about fifteen feet wide, raised high above the pens. In these chutes the stream of animals was continuous. The chutes into which the hogs went climbed high up — to the very top of the buildings; and Jokobus explained that the hogs went up by the power of their own legs, and then their weight carried them back through all the processes necessary to make them into pork. "They use everything about the hog except the squeal."

The mass of buildings which occupy the centre of the yards, made of brick and stained innumerable layers of "Packing-town" smoke, were painted all over with advertising signs, "Imperial Hams and Bacon," "Dressed Beef," "Excelsior Sausages."

The visitors climbed a long series of stairways outside of one of the buildings, to the top of its


five or six stories. Here was the chute, with its river of hogs, all patiently toiling upward.

The hog killing room was long and narrow. The carcasses were taken out on wheels and thrown into a huge vat of boiling water, from whence they were scooped out by machinery, and then fell to the second floor, passing on the way through a wonderful machine with numerous scrapers, which adjusted themselves to the size and shape of the animal, and sent it out at the other end with nearly all its bristles removed. It was then again strung up by machinery, and sent upon another trolley ride; this time passing between two lines of men, who sat upon a raised platform, each doing a certain thing to the carcass as it came to him. There were men to scrape each side and men to scrape the back; there were men to clean the carcass inside, to trim it and wash it. Looking down the room, one saw, creeping slowly, a line of dangling hogs a hundred yards in length; and for every yard there was a man, working as if a demon was after him. At the end of this hog's progress every inch of the carcass had been gone over several times; and then it was rolled into the chilling room, where it stayed twenty-four hours, and where a stranger might lose himself in a forest of freezing hogs.

Before the carcass was admitted here, however,

it had to pass a government inspector, who sat in the doorway and felt the glands for tuberculosis.

The party descended to the next floor, where the various waste materials were treated. To one room came all the scraps to be "tanked," which meant boiling and pumping off the grease to make soap and lard; in other places men were engaged in cutting up the carcasses that had been through the chilling-rooms. First there were the "splitters," the most expert workmen in the plant. Then there were "cleaver men," great giants with muscles of iron; each had two men to attend him — to slide the half carcass in front of him on the table, and hold it while he chopped it, and then turn each piece so that he might chop it once more. His cleaver had a blade about two feet long, and he never made but one cut; he made it so neatly, too, that his implement did not smite through and dull itself — there was just enough force for a perfect cut, and no more. So through the various yawning holes there slipped to the floor below — to one room hams, to another forequarters, to another sides of pork. One might go down to this floor and see the pickling-rooms, where the hams were put into vats, and the great smoke-rooms, with their air-tight doors. In other rooms they prepared salt-pork — there were whole cellars full of it, built up in great towers to the ceiling. In yet other rooms



they were putting up meat in boxes and barrels, and wrapping hams and bacon in oiled paper, sealing and labelling and sewing them. From the doors of these rooms went men with loaded trucks, to the platform where freight-cars were waiting to be filled; and one went out there and realized that he had come at last to the ground floor of this enormous building.


Then the party went across the street to where they did the killing of the beef — where every hour they turned four and five hundred cattle into meat. All this work was done on one floor; and instead of there being one line of carcasses which moved to the workmen, there were fifteen or twenty lines, and the men moved from one to another of these. This made a scene of intense activity, a picture of human power wonderful to watch. It was all in one great room, like a circus amphitheatre, with a gallery for visitors running over the centre.

Along one side of the room ran a narrow gallery, a few feet from the floor, into which the cattle were driven. The instant an animal had been killed, a man raised a lever, and the side of the pen was raised, and the animal slid out. Here a man put shackles about one leg, and pressed another lever, and the body was lifted into the air.

The manner in which the men worked was something to be seen and never forgotten. They

worked with furious intensity, literally upon the run — at a pace with which there is nothing to be compared except a foot-ball game. It was all highly specialized labor, each man having his task to do. There were men to cut it, and men to split it, and men to scrape it clean inside. There were some with hose which threw jets of boiling water upon it, and others who removed the feet and added the final touches. In the end, as with the hogs, the finished beef was run into the chilling-room, to hang its appointed time.

The visitors were taken there and shown them, all neatly hung in rows, labelled conspicuously with the tags of the government inspectors — and some, which had been killed by a special process, marked the sign of the “kosher” rabbi, certifying that it was fit for sale to the orthodox. And then the visitors were taken to the other parts of the building, to see what became of each particle of the waste material that had vanished through the floor; and to the pickling-rooms, and the salting-rooms, the canning-rooms, and the packing-rooms, where choice meat was prepared for shipping in refrigerator-cars, destined to be eaten in all the four corners of civilization. Afterwards they went outside, wandering about among the mazes of buildings in which was done the work auxiliary to this great industry. There was scarcely a thing needed in the business that

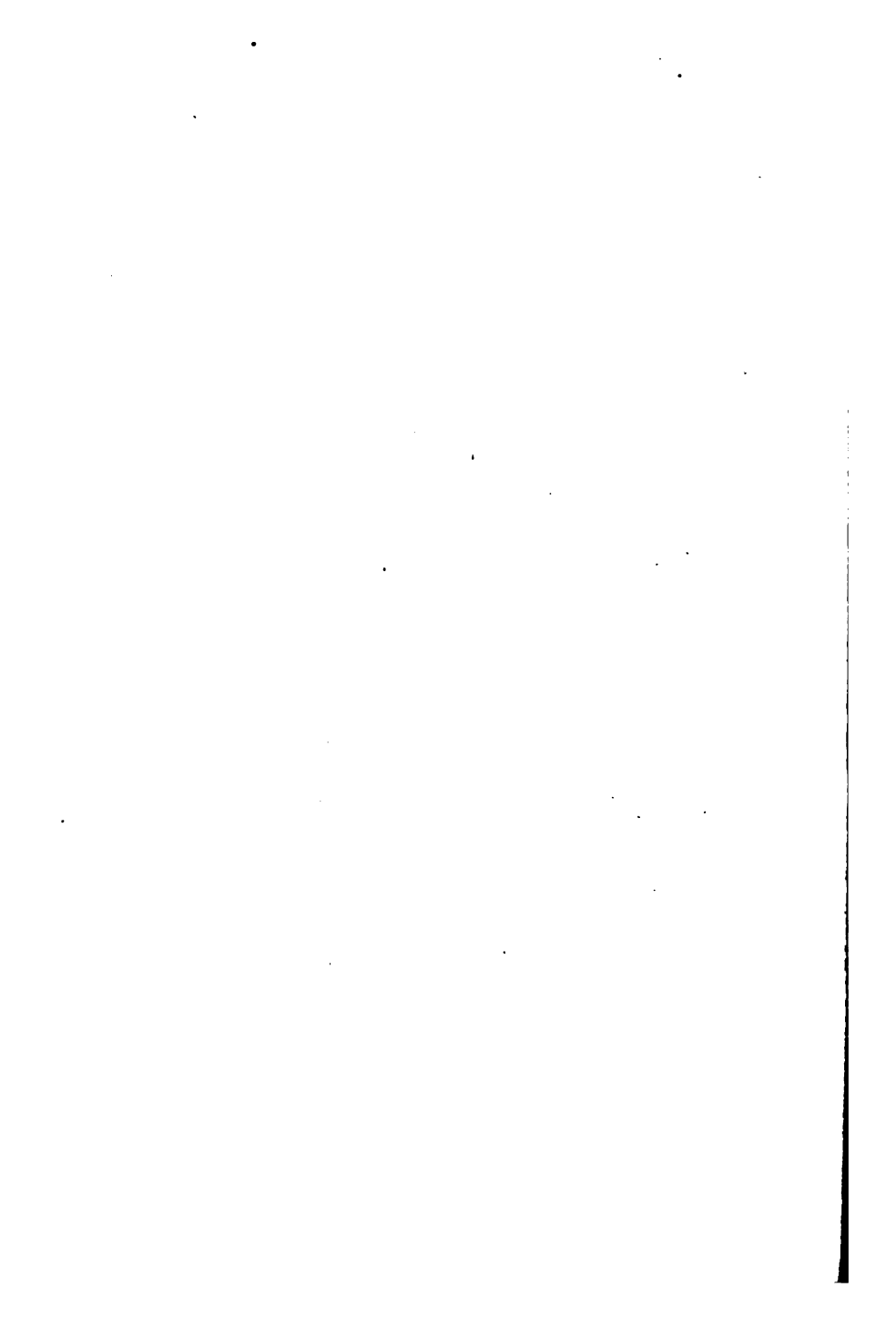


the Company did not make for themselves. There was a great steam-power plant and an electricity plant. There was a barrel factory, and a boiler-repair shop. There was a building to which the grease was piped, and made into soap and lard; and there was a factory for making lard cans, and another for making soap boxes. There was a building in which the bristles were cleaned and dried, for the making of hair cushions and such things; there was a building where the skins were dried and tanned, there was another where heads and feet were made into glue, and another where bones were made into fertilizer. No tiniest particle of organic matter was wasted. Out of the horns of the cattle they made combs, buttons, hair-pins, and imitation ivory; out of the shin bones and other big bones they cut knife and tooth-brush handles, and mouth-pieces for pipes; out of the hoofs they cut hair-pins and buttons, before they made the rest into glue. From such things as feet, knuckles, hide clippings, and sinews came such strange and unlikely products as gelatin, isinglass, and phosphorus, bone-black, shoe-black, and bone-oil. They had curled-hair works for the cattle tails, and "wool-pullery" for the sheep skins; they made pepsin from the stomachs of the pigs, and albumen from the blood, and violin strings from the entrails. When there was nothing else to be done with a

thing, they first put it into a tank and got out all the tallow and grease, and then they made it into fertilizer. All these industries were gathered into buildings near by, connected by galleries and railroads with the main establishment. The Company employed thirty thousand men; and it supported directly two hundred and fifty thousand people in its neighborhood, and indirectly it supported half a million. It sent its products to every country in the civilized world, and it furnished food for no less than thirty million people!

Taken from *The Jungle*, by Upton Sinclair, published by Doubleday, Page & Company.





# THE CATTLE DRIVE

*From Arizona Nights*

BY

STEWART EDWARD WHITE

Stewart Edward White was born in Michigan, the son of pioneers, and lived until sixteen mainly in lumber camps and among the rivermen. When the time came, he made short work with school and university, carried his Ph.B. into a packing house, then upon a scramble for gold into the Black Hills, next to Columbia for literature and law, thence to a publishing house. His permanent home is in California.

In *Arizona Nights* he tells how cattle are handled by men and horses on the great Western ranges. Rough men, rough manners, and customs surround these big-hearted cowboys.

*For young people and adults.*



## THE CATTLE DRIVE

A CRY awakened me. It was still deep night. The moon sailed overhead, the stars shone unwavering like candles, and a chill breeze wandered in from the open spaces of the desert. I raised myself on my elbow, throwing aside the blankets and the canvas tarpaulin. Forty other indistinct, formless bundles on the ground all about me were sluggishly astir. Four figures passed and repassed between me and a red fire. I knew them for the two cooks and the horse wranglers. One of the latter was grumbling.

"Didn't git in till moon-up last night," he growled. "Might as well trade my bed for a lantern and be done with it."

Even as I stretched my arms and shivered a little, the two wranglers threw down their tin plates with a clatter, mounted horses and rode away in the direction of the thousand acres or so known as the pasture.

I pulled on my clothes hastily, buckled in my buckskin shirt, and dove for the fire. A dozen others were before me. It was bitterly cold. In the east the sky had paled the least bit in the world,

but the moon and stars shone on bravely and undiminished. A band of coyotes was shrieking desperate blasphemies against the new day, and the stray herd, awakening, was beginning to bawl and bellow.


Two crater-like dutch ovens, filled with pieces of fried beef, stood near the fire; two galvanized water buckets, brimming with soda biscuits, flanked them; two tremendous coffee pots stood guard at either end. We picked us each a tin cup and a tin plate from the box at the rear of the chuck wagon; helped ourselves from a dutch oven, a pail, and a coffee pot, and squatted on our heels as close to the fire as possible. Men who came too late borrowed the shovel, scooped up some coals, and so started little fires of their own about which new groups formed.

While we ate, the eastern sky lightened. The mountains under the dawn looked like silhouettes cut from slate-coloured paper; those in the west showed faintly luminous. Objects about us became dimly visible. We could make out the windmill, and the adobe of the ranch houses, and the corrals. The cowboys arose one by one, dropped their plates into the dishpan, and began to hunt out their ropes. Everything was obscure and mysterious in the faint gray light. I watched Windy Bill near his tarpaulin. He stooped to

throw over the canvas. When he bent, it was before daylight; when he straightened his back, daylight had come. It was just like that, as though some one had reached out his hand to turn on the illumination of the world.

The eastern mountains were fragile, the plain was ethereal, like a sea of liquid gases. From the pasture we heard the shoutings of the wranglers, and made out a cloud of dust. In a moment the first of the remuda came into view, trotting forward with the free grace of the unburdened horse. Others followed in procession: those near sharp and well defined, those in the background more or less obscured by the dust, now appearing plainly, now fading like ghosts. The leader turned unhesitatingly into the corral. After him poured the stream of the remuda — two hundred and fifty saddle horses — with an unceasing thunder of hoofs.

Immediately the cook-camp was deserted. The cowboys entered the corral. The horses began to circle around the edge of the enclosure as around the circumference of a circus ring. The men, grouped at the centre, watched keenly, looking for the mounts they had already decided on. In no time each had recognized his choice, and, his loop trailing, was walking toward that part of the revolving circumference where his pony dodged. Some few whirled the loop, but most cast it with



a quick flip. It was really marvellous to observe the accuracy with which the noose would fly, past a dozen tossing heads, and over a dozen backs, to settle firmly about the neck of an animal perhaps in the very centre of the group. But again, if the first throw failed, it was interesting to see how the selected pony would dodge, double back, twist, turn, and hide to escape a second cast. And it was equally interesting to observe how his companions would help him. They seemed to realize that they were not wanted, and would push themselves between the cowboy and his intended mount with the utmost boldness. In the thick dust that instantly arose, and with the bewildering thunder of galloping, the flashing change of grouping, the rush of the charging animals, recognition alone would seem almost impossible, yet in an incredibly short time each had his mount, and the others, under convoy of the wranglers, were meekly wending their way out over the plain. There, until time for a change of horses, they would graze in a loose and scattered band, requiring scarcely any supervision. Escape? Bless you, no, that thought was the last in their minds.

In the meantime the saddles and bridles were adjusted. Always in a cowboy's "string" of from six to ten animals the boss assigns him two or three broncos to break in to the cow business. There-

fore, each morning we could observe a half dozen or so men gingerly leading wicked looking little animals out to the sand "to take the pitch out of them." One small black, belonging to a cowboy called the Judge, used more than to fulfil expectations of a good time.

"Go to him, Judge!" someone would always remark.

"If he ain't goin' to pitch, I ain't goin' to make him," the Judge would grin, as he swung aboard.

The black would trot off quite calmly and in a most matter of fact way, as though to shame all slanderers of his lamb-like character. Then, as the bystanders would turn away, he would utter a squeal, throw down his head, and go at it. He was a very hard buck, and made some really spectacular jumps, but the trick on which he based his claims to originality consisted in standing on his hind legs at so perilous an approach to the perpendicular that his rider would conclude he was about to fall backwards, and then suddenly springing forward in a series of stiff-legged bucks. The first manoeuvre induced the rider to loosen his seat in order to be ready to jump from under, and the second threw him before he could regain his grip.

"And they say a horse don't think!" exclaimed an admirer.

But as these were broken horses — save the mark! — the show was all over after each had had his little fling. We mounted and rode away, just as the mountain peaks to the west caught the rays of a sun we should not enjoy for a good half hour yet.

I had five horses in my string, and this morning rode "that C S horse, Brown Jug." Brown Jug was a powerful and well-built animal, about fourteen two in height, and possessed of a vast enthusiasm for cow-work. As the morning was frosty, he felt good.

At the gate of the water corral we separated into two groups. The smaller, under the direction of Jed Parker, was to drive the mesquite in the wide flats; the rest of us, under the command of Homer, the round-up captain, were to sweep the country even as far as the base of the foothills near Mount Graham. Accordingly we put our horses to the full gallop.

Mile after mile we thundered along at a brisk rate of speed. Sometimes we dodged in and out among the mesquite bushes, alternately separating and coming together again; sometimes we swept over grassy plains apparently of illimitable extent; sometimes we skipped and hopped and buck-jumped through and over little gullies, barrancas, and other sorts of malpais — but always without drawing rein. The men rode easily, with no thought to the

way nor care for the footing. The air came back sharp against our faces. The warm blood stirred by the rush flowed more rapidly. We experienced a delightful glow. Of the morning cold only the very tips of our fingers, and the ends of our noses retained a remnant. Already the sun was shining low and level across the plains. The shadows of the canyons modelled the hitherto flat surfaces of the mountains.

After a time we came to some low hills helmeted with the outcrop of a rock escarpment. Hitherto they had seemed a termination of Mount Graham, but now, when we rode around them, we discovered them to be separated from the range by a good five miles of sloping plain. Later we looked back and would have sworn them part of the Dos Cabezas system, did we not know them to be at least eight miles' distant from that rocky rampart. It is always that way in Arizona. Spaces develop of whose existence you had not the slightest intimation. Hidden in apparently plane surfaces are valleys and prairies. At one sweep of the eye you embrace the entire area of an eastern State; but nevertheless the reality as you explore it foot by foot proves to be infinitely more than the vision has promised.

Beyond the hill we stopped. Here our party divided again, half to the right and half to the left. We had ridden, up to this time, directly away


from camp, now we rode a circumference of which headquarters was the centre. The country was pleasantly rolling and covered with grass. Here and there were clumps of soapweed. Far in a remote distance lay a slender dark line across the plain. This we knew to be mesquite; and once entered, we knew it, too, would seem to spread out vastly. And then this grassy slope, on which we now rode, would show merely as an insignificant streak of yellow. It is also like that in Arizona. I have ridden in succession through grass land, brush land, flower land, desert. Each in turn seemed entirely to fill the space of the plains between the mountains.

From time to time Homer halted us and detached a man. The business of the latter was then to ride directly back to camp, driving all cattle before him. Each was in sight of his right- and left-hand neighbor. Thus was constructed a drag-net whose meshes contracted as home was neared.

I was detached, when of our party only the Cattleman and Homer remained. They would take the outside. This was the post of honor, and required the hardest riding, for as soon as the cattle should realize the fact of their pursuit, they would attempt to "break" past the end and up the valley. Brown Jug and I congratulated ourselves on an exciting morning in prospect.

Now, wild cattle know perfectly well what a drive means, and they do not intend to get into a round-up if they can help it. Were it not for the two facts, that they are afraid of a mounted man, and cannot run quite so fast as a horse, I do not know how the cattle business would be conducted. As soon as a band of them caught sight of any one of us, they curled their tails and away they went at a long, easy lope that a domestic cow would stare at in wonder. This was all very well; in fact we yelled and shrieked and otherwise uttered cow-calls to keep them going, to "get the cattle started," as they say. But pretty soon a little band of the many scurrying away before our thin line, began to bear farther and farther to the east. When in their judgment they should have gained an opening, they would turn directly back and make a dash for liberty. Accordingly the nearest cowboy clapped spurs to his horse and pursued them.

It was a pretty race. The cattle ran easily enough, with long, springy jumps that carried them over the ground faster than appearances would lead one to believe. The cow-pony, his nose stretched out, his ears slanted, his eyes snapping with joy of the chase, flew fairly "belly to earth." The rider sat slightly forward, with the cowboy's loose seat. A whirl of dust, strangely insignificant against the immensity of a desert morning, rose



from the flying group. Now they disappeared in a ravine, only to scramble out again the next instant, pace undiminished. The rider merely rose slightly and threw up his elbows to relieve the jar of the rough gully. At first the cattle seemed to hold their own, but soon the horse began to gain. In a short time he had come abreast of the leading animal. The latter stopped short with a snort, dodged back, and set out at right angles to his former course. From a dead run the pony came to a stand in two fierce plunges, doubled like a shot, and was off on the other tack. An unaccustomed rider would here have lost his seat. The second dash was short. With a final shake of the head, the steers turned to the proper course in the direction of the ranch. The pony dropped unconcernedly to the shuffling jog of habitual progression.


Far away stretched the arc of our cordon. The most distant rider was a speck, and the cattle ahead of him were like maggots endowed with a smooth, swift onward motion. As yet the herd had not taken form; it was still too widely scattered. Its units, in the shape of small bunches, momentarily grew in numbers. The distant plains were crawling and alive with minute creatures making toward a common tiny centre.

Immediately in our front the cattle at first behaved very well. Then far down the long gentle

slope I saw a break for the upper valley. The manikin that represented Homer at once became even smaller as it departed in pursuit. The Cattleman moved down to cover Homer's territory until he should return, and I in turn edged farther to the right. Then another break from another bunch. The Cattleman rode at top speed to head it. Before long he disappeared in the distant mesquite. I found myself in sole charge of a front three miles long.

The nearest cattle were some distance ahead, and trotting along at a good gait. As they had not yet discovered the chance left open by unforeseen circumstance, I descended and took in on my cinch while yet there was time. Even as I mounted, an impatient movement on the part of experienced Brown Jug told me that the cattle had seen their opportunity.

I gathered the reins and spoke to the horse. He needed no further direction, but set off at a wide angle, nicely calculated, to intercept the truants. Brown Jug was a powerful beast. The spring of his leap was as whalebone. The yellow earth began to stream past like water. Always the pace increased with a growing thunder of hoofs. It seemed that nothing could turn us from the straight line, nothing check the headlong momentum of our rush. My eyes filled with tears from the wind of our going. Saddle strings streamed behind. Brown Jug's mane



whipped my bridle hand. Dimly I was conscious of soapweed, sacatone, mesquite, as we passed them. They were abreast and gone before I could think of them or how they were to be dodged. Two antelope bounded away to the left; birds rose hastily from the grasses. A sudden *chirk, chirk, chirk*, rose all about me. We were in the very centre of a prairie-dog town, but before I could formulate in my mind the probabilities of holes and broken legs, the *chirk, chirk, chirking* had fallen astern. Brown Jug had skipped and dodged successfully.

We were approaching the cattle. They ran stubbornly and well, evidently unwilling to be turned until the latest possible moment. A great rage at their obstinacy took possession of us both. A broad shallow wash crossed our way, but we plunged through its rocks and boulders recklessly, angered at even the slight delay they necessitated. The hard land on the other side we greeted with joy. Brown Jug extended himself with a snort.


Suddenly a jar seemed to shake my very head loose. I found myself staring over the horse's head directly down into a deep and precipitous gully, the edge of which was so cunningly concealed by the grasses as to have remained invisible to my blurred vision. Brown Jug, however, had caught sight of it at the last instant, and had executed one of the wonderful stops possible only to a cow-pony.

But already the cattle had discovered a passage above, and were scrambling down and across. Brown Jug and I, at more sober pace, slid off the almost perpendicular bank, and out the other side.

A moment later we had headed them. They whirled, and without the necessity of any suggestion on my part Brown Jug turned after them, and so quickly that my stirrup actually brushed the ground. After that we were masters. We chased the cattle far enough to start them well in the proper direction, and then pulled down to a walk in order to get a breath of air.

But now we noticed another band, back on the ground over which we had just come, doubling through in the direction of Mount Graham. A hard run set them to rights. We turned. More had poured out from the hills. Bands were crossing everywhere, ahead and behind. Brown Jug and I set to work.

Being an indivisible unit, we could chase only one bunch at a time; and, while we were after one, a half dozen others would be taking advantage of our preoccupation. We could not hold our own. Each run after an escaping bunch had to be on a longer diagonal. Gradually we were forced back, and back, and back; but still we managed to hold the line unbroken. Never shall I forget the dash



and clatter of that morning. Neither Brown Jug nor I thought for a moment of sparing horseflesh, nor of picking a route. We made the shortest line, and paid little attention to anything that stood in the way. A very fever of resistance possessed us. It was like beating against a head wind, or fighting fire, or combating in any other way any of the great forces of nature. We were quite alone. The Cattleman and Homer had vanished. To our left the men were fully occupied in marshalling the compact brown herds that had gradually massed — for these antagonists of mine were merely the outlying remnants.

I suppose Brown Jug must have run nearly twenty miles with only one check. Then we chased a cow some distance and into the dry bed of a stream, where she whirled on us savagely. By luck her horn hit only the leather of my saddle skirts, so we left her; for when a cow has sense enough to "get on the peck," there is no driving her farther. We gained nothing, and had to give ground, but we succeeded in holding a semblance of order, so that the cattle did not break and scatter far and wide. The sun had by now well risen, and was beginning to shine hot. Brown Jug still ran gamely and displayed as much interest as ever, but he was evidently tiring. We were both glad to see Homer's gray showing in the fringe of mesquite.

Together we soon succeeded in throwing the cows into the main herd. And, strangely enough, as soon as they had joined a compact band of their fellows, their wildness left them and, convoyed by outsiders, they set themselves to plodding energetically toward the home ranch.

As my horse was somewhat winded, I joined the "drag" at the rear. Here by course of natural sifting soon accumulated all the lazy, gentle, and sickly cows, and the small calves. The difficulty now was to prevent them from lagging and dropping out. To that end we indulged in a great variety of the picturesque cow-calls peculiar to the cowboy. One found an old tin can which by the aid of a few pebbles he converted into a very effective rattle.

The dust rose in clouds and eddied in the sun. We slouched easily in our saddles. The cowboys compared notes as to the brands they had seen. Our ponies shuffled along, resting, but always ready for a dash in chase of an occasional bull calf or yearling with independent ideas of its own.

Thus we passed over the country, down the long gentle slope to the "sink" of the valley, whence another long gentle slope ran to the base of the other ranges. At greater or lesser distances we caught the dust, and made out dimly the masses of the other herds collected by our companions, and by

the party under Jed Parker. They went forward toward the common centre, with a slow ruminative movement, and the dust they raised went with them.

Little by little they grew plainer to us, and the home ranch, hitherto merely a brown shimmer in the distance, began to take on definition as the group of buildings, windmills, and corrals we knew. Miniature horsemen could be seen galloping forward to the open white plain where the herd would be held. Then the mesquite enveloped us; and we knew little more, save the anxiety lest we overlook laggards in the brush, until we came out on the edge of that same white plain.

Here were more cattle, thousands of them, and billows of dust, and a great bellowing, and dim, mounted figures riding and shouting ahead of the herd. Soon they succeeded in turning the leaders back. These threw into confusion those that followed. In a few moments the cattle had stopped. A cordon of horsemen sat at equal distances holding them in.

"Pretty good haul," said the man next to me; "a good five thousand head."

Taken from *Arizona Nights*, by Stewart Edward White, published by Doubleday, Page and Co.

# CATTLE BRANDING

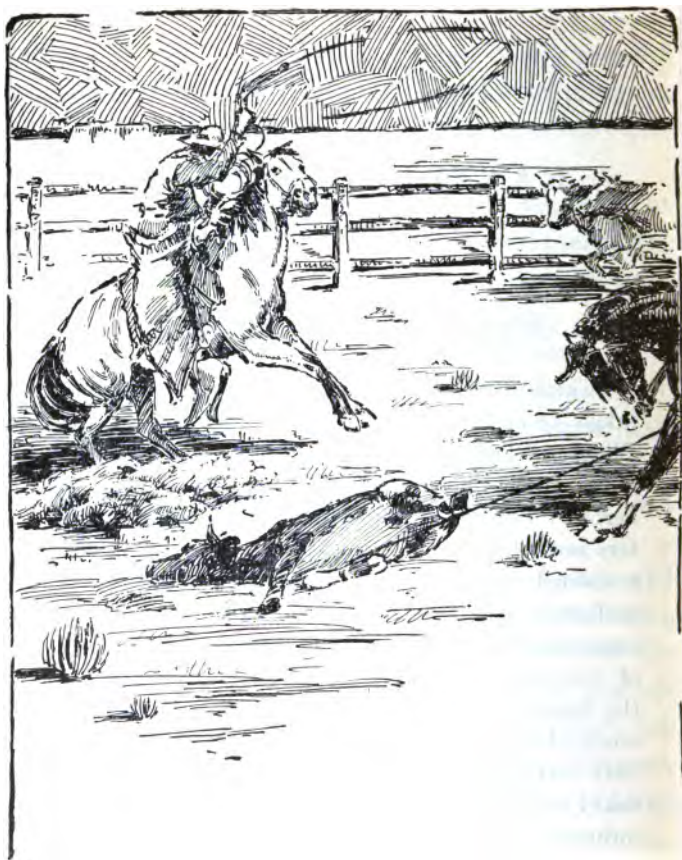
*From Arizona Nights*

BY

STEWART EDWARD WHITE

"Cattle Branding" is an almost entire chapter taken from *Arizona Nights*, by Stewart Edward White. "The story of the West," says Emerson Hough in his book on the cowboy, "is a story of heroes. Cowboy, cattleman, cowpuncher, it matters not what name others have given him, he has remained — himself. From the half-tropic to the half-arctic country he has ridden, his type, his costume, his characteristics practically unchanged, one of the most dominant and self-sufficient figures in the history of the land. If we study him, we shall study also the day in which he lived, more especially that early day which saw the opening and the climax of that drama of commerce — the cattle industry of the West."

*For young people or adults.*



## CATTLE BRANDING

ALL that night we slept like sticks of wood. No dreams visited us, but in accordance with the immemorial habit of those who live out — whether in the woods, on the plains, among the mountains, or at sea — once during the night each of us rose on his elbow, looked about him, and dropped back to sleep. If there had been a fire to replenish, that would have been the moment to do so; if the wind had been changing and the seas rising, that would have been the time to cast an eye aloft for indications, to feel whether the anchor cable was holding; if the pack-horses had straggled from the alpine meadows under the snows, this would have been the occasion for intent listening for the faintly tinkling bell so that next day one would know in which direction to look. But since there existed for us no responsibility, we each reported dutifully at the roll-call of habit, and dropped back into our blankets with a grateful sigh.

I remember the moon sailing a good gait among apparently stationary cloudlets; I recall a deep, black shadow lying before distant silvery mountains; I glanced over the stark, motionless canvases, each

of which concealed a man; the air trembled with the bellowing of cattle in the corrals.

Seemingly but a moment later the cook's howl brought me to consciousness again. A clear, licking little fire danced in the blackness. Before it moved silhouettes of men already eating.

I piled out and joined the group. Homer was busy distributing his men for the day. Three were to care for the remuda; five were to move the stray-herd from the corrals to good feed; three branding crews were told to brand the calves we had collected in the cut of the afternoon before. That took up about half the men. The rest were to make a short drive in the salt grass. I joined the Cattleman, and together we made our way afoot to the branding pen.

We were the only ones who did go afoot, however, although the corrals were not more than two hundred yards distant. When we arrived we found the string of ponies standing around outside. Between the upright bars of greasewood we could see the cattle, and near the opposite side the men building a fire next the fence. We pushed open the wide gate and entered. The three ropers sat their horses, idly swinging the loops of their ropes back and forth. Three others brought wood and arranged it craftily in such manner as to get best draught for heating — a good branding fire is most decidedly

a work of art. One stood waiting for them to finish, a sheaf of long J H stamping irons in his hand. All the rest squatted on their heels along the fence, smoking cigarettes and chatting together. The first rays of the sun slanted across in one great sweep from the remote mountains.

In ten minutes Charley pronounced the irons ready. Homer, Wooden, and old California John rode in among the cattle. The rest of the men arose and stretched their legs and advanced. The Cattleman and I climbed to the top bar of the gate, where we roosted, he with his tally-book on his knee.

Each rider swung his rope above his head with one hand, keeping the broad loop open by a skilful turn of the wrist at the end of each revolution. In a moment Homer leaned forward and threw. As the loop settled, he jerked sharply upward, exactly as one would strike to hook a big fish. This tightened the loop and prevented it from slipping off. Immediately, and without waiting to ascertain the result of the manœuvre, the horse turned and began methodically, without undue haste, to walk toward the branding fire. Homer wrapped the rope twice or thrice about the horn, and sat over in one stirrup to avoid the tightened line and to preserve the balance. Nobody paid any attention to the calf.

The latter had been caught by the two hind legs. As the rope tightened, he was suddenly upset,

and before he could realize that something disagreeable was happening, he was sliding majestically along on his belly. Behind him followed his anxious mother, her head swinging from side to side.

Near the fire the horse stopped. The two "bull-doggers" immediately pounced upon the victim. It was promptly flopped over on its right side. One knelt on its head and twisted back its foreleg in a sort of hammer-lock; the other seized one hind foot, pressed his boot heel against the other hind leg close to the body, and sat down behind the animal. Thus the calf was unable to struggle. When once you have had the wind knocked out of you, or a rib or two broken, you cease to think this unnecessarily rough. Then one or the other threw off the rope. Homer rode away, coiling the rope as he went.

"Hot iron!" yelled one of the bull-doggers.

"Marker!" yelled the other.

Immediately two men ran forward. The brander pressed the iron smoothly against the flank. A smoke and the smell of scorching hair arose. Perhaps the calf blatted a little as the heat scorched. In a brief moment it was over. The brand showed cherry, which is the proper color to indicate due peeling and a successful mark.

In the meantime the marker was engaged in his work. First, with a sharp knife he cut off slanting

the upper quarter of one ear. Then he nicked out a swallow-tail in the other. The pieces he thrust into his pocket in order that at the completion of the work he could thus check the Cattleman's tally-board as to the number of calves branded.<sup>1</sup> The bull-dogger let go. The calf sprang up, was appropriated and smelled over by his worried mother, and the two departed into the herd to talk it over.

It seems to me that a great deal of unnecessary twaddle is abroad as to the extreme cruelty of branding. Undoubtedly it is to some extent painful, and could some other method of ready identification be devised, it might be as well to adopt it in preference. But in the circumstance of a free range, thousands of cattle, and hundreds of owners, any other method is out of the question. I remember a New England movement looking toward small brass tags to be hung from the ear. Inextinguishable laughter followed the spread of this doctrine through Arizona. Imagine a puncher descending to examine politely the ear-tags of wild cattle on the open range or in a round-up.

But, as I have intimated, even the inevitable branding and ear-marking are not so painful as one might suppose. The scorching hardly penetrates

<sup>1</sup> For the benefit of the squeamish it might be well to state that the fragments of the ears were cartilaginous, and therefore not bloody.

below the outer tough skin — only enough to kill the roots of the hair — besides which it must be remembered that cattle are not so sensitive as the higher nervous organisms. A calf usually bellows when the iron bites, but as soon as released he almost invariably goes to feeding or to looking idly about. Indeed, I have never seen one even take the trouble to lick his wounds, which is certainly not true in the case of the injuries they inflict on each other in fighting. Besides which, it happens but once in a lifetime, and is over in ten seconds; a comfort denied to those of us who have our teeth filled.

In the meantime two other calves had been roped by the other two men. One of the little animals was but a few months old, so the rider did not bother with its hind legs, but tossed his loop over its neck. Naturally, when things tightened up, Mr. Calf entered his objections, which took the form of most vigorous bawlings, and the most comical bucking, pitching, cavorting, and bounding in the air. Mr. Frost's bull-calf alone in pictorial history shows the attitudes. And then, of course, there was the gorgeous contrast between all this frantic and uncomprehending excitement and the absolute matter-of-fact imperturbability of horse and rider. Once at the fire, one of the men seized the tightened rope in one hand, reached well over

the animal's back to get a slack of the loose hide next the belly, lifted strongly, and tripped. This is called "bull-dogging." As he knew his business, and as the calf was a small one, the little beast went over promptly, hit the ground with a whack, and was pounced upon and held.

Such good luck did not always follow, however. An occasional and exceedingly husky bull yearling declined to be upset in any such manner. He would catch himself on one foot, scramble vigorously, and end by struggling back to the upright. Then ten to one he made a dash to get away. In such case he was generally snubbed up short enough at the end of the rope; but once or twice he succeeded in running around a group absorbed in branding. You can imagine what happened next. The rope, attached at one end to a conscientious and immovable horse and at the other to a reckless and vigorous little bull, swept its taut and destroying way about mid-knee high across that group. The brander and marker, who were standing, promptly sat down hard; the bull-doggers, who were sitting, immediately turned several most capable somersaults; the other calf arose and inextricably entangled his rope with that of his accomplice. Hot irons, hot language, and dust filled the air.

Another method, and one requiring slightly more knack, is to grasp the animal's tail and throw it by

a quick jerk across the pressure of the rope. This is productive of some fun if it fails.

By now the branding was in full swing. The three horses came and went phlegmatically. When the nooses fell, they turned and walked toward the fire as a matter of course. Rarely did the cast fail. Men ran to and fro busy and intent. Sometimes three or four calves were on the ground at once. Cries arose in a confusion: "Marker!" "Hot iron!" "Tally one!" Dust eddied and dissipated. Behind all were clear sunlight and the organ roll of the cattle bellowing.

Toward the middle of the morning the bull-doggers began to get a little tired.

"No more necked calves," they announced. "Catch 'em by the hind legs, or bull-dog 'em yourself."

And that went. Once in a while the rider, lazy, or careless, or bothered by the press of numbers, dragged up a victim caught by the neck. The bull-doggers flatly refused to have anything to do with it. An obvious way out would have been to flip off the loop and try again; but of course that would have amounted to a confession of wrong.

"You fellows drive me plumb weary," remarked the rider, slowly dismounting. "A little bit of a calf like that! What you all need is a nigger to cut up your food for you!"

Then he would spit on his hands, and go at it alone. If luck attended his first effort, his sarcasm was profound.

"There's yore little calf," said he. "Would you like to have me tote it to you, or do you reckon you could toddle this far with yore little old iron?"

But if the calf gave much trouble, then all work ceased while the unfortunate puncher wrestled it down.

Toward noon the work slacked. Unbranded calves were scarce. Sometimes the men rode here and there for a minute or so before their eyes fell on a pair of uncropped ears. Finally Homer rode over to the Cattleman and reported the branding finished. The latter counted the marks in his tally-book.

"One hundred and seventy-six," he announced.

The markers, squatted on their heels, told over the bits of ears they had saved. The total amounted to but a hundred and seventy-five. Everybody went to searching for the missing bit. It was not forthcoming. Finally Wooden discovered it in his hip pocket.

"Felt her thar all the time," said he, "but thought it must shorely be a chaw of tobacco."

This matter satisfactorily adjusted, the men all ran for their ponies. They had been doing a wrestler's heavy work all the morning, but did not seem

to be tired. I saw once in some crank physical culture periodical that a cowboy's life was physically ill-balanced, like an oarsman's, in that it exercised only certain muscles of the body. The writer should be turned loose in a branding corral.

Through the wide gates the cattle were urged out to the open plain. There they were held for over an hour while the cows wandered about looking for their lost progeny. A cow knows her calf by scent and sound, not by sight. Therefore the noise was deafening, and the motion incessant.

Finally the last and most foolish cow found the last and most foolish calf. We turned the herd loose to hunt water and grass at its own pleasure, and went slowly back to chuck.

Taken from *Arizona Nights*, by Stewart Edward White, published by Doubleday, Page and Co.



# SHEEP-SHEARING

From *Ramona*

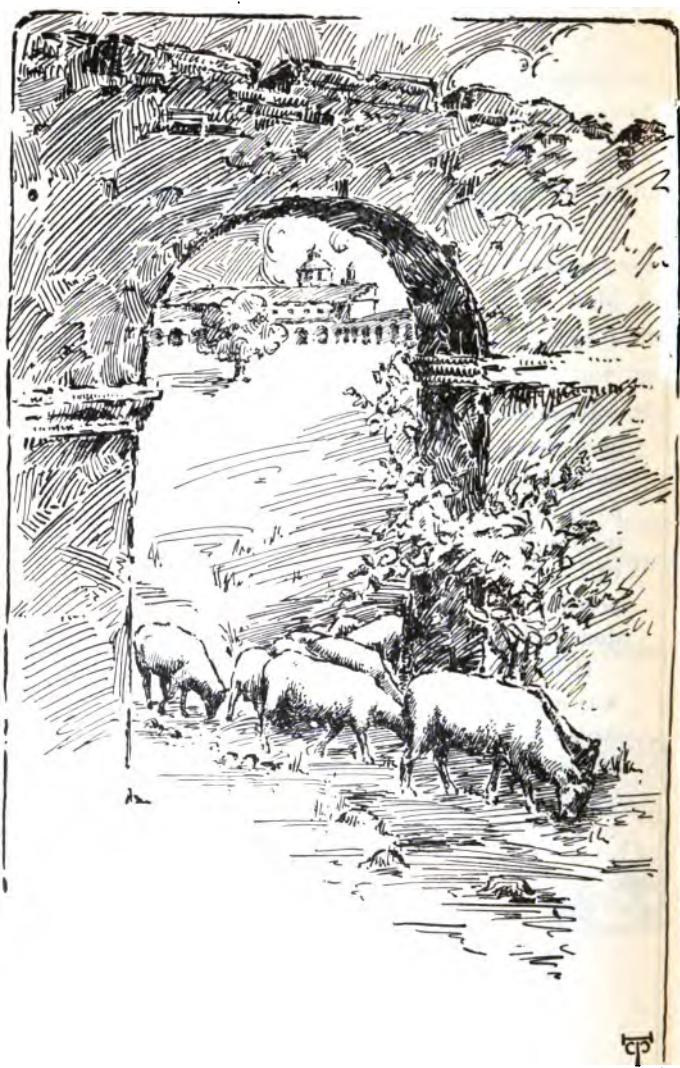
BY

HELEN HUNT JACKSON

Ramona was a Spanish girl of wealth, who lived on a sheep ranch in Southern California during the picturesque days of the Franciscan Missions. She lived with an old Spanish Señora who, though seemingly quiet, retiring, and religious, ruled her ranch with a rod of iron. Ramona sacrificed riches and position for love of an Indian who suffered martyrdom with his race.

Helen Hunt Jackson (H. H.), who wrote the story, was a novelist and poetess, born in New England. Appointed by the government to report on the Ponca Indians of Southern California, she could say with authority, "every word of the Indian history in *Ramona* is literally true."

*For young people and adults.*



## SHEEP-SHEARING

JUAN CANITO wanted the shearing to begin. "There are plenty of sheep on the place to begin with," he said one morning, "at least a thousand." Had not he, Juan Canito, stood at the packing-bag, and handled the wool, when Señor Felipe was a boy? Why could he not do it again? The Señora did not realize how time was going; there would be no shearers to be hired presently, since the Señora was determined to have none but Indians. Of course, if she would employ Mexicans, as all the other ranches in the valley did, it would be different; but she was resolved upon having Indians —

"About the Indians, Juan," the Señora replied with exquisite gentleness; "did not the Señor Felipe tell you that he had positively engaged the same band of shearers we had last autumn, Alessandro's band from Temecula? They will wait till we are ready for them. Señor Felipe will send a messenger for them. He thinks them the best shearers in the country. Will the crop be good? General Moreno used to say that you could

reckon up the wool-crop to a pound, while it was on the sheep's backs."

"Yes, Señora," answered the mollified Juan; "the poor beasts look wonderful well considering the scant feed they have had all winter. We'll not come many pounds short of our last year's crop, if any."

He stood watching her as she walked away, at her usual slow pace, her head bent slightly forward. Juan's eyes followed her. "If they'll take one to heaven, the Señora'll go by the straight road, that's sure."

"A plague on that Luigo for not being back here. He's the best hand I have to cut the willow boughs for the roofs," he said. "He knows the difference between one year's growth and another's, I'll say that much for him, spite of the silly dreaming head he's got on his shoulders."

\* \* \* \* \*

It was late in the afternoon of one of those mid-summer days of which Southern California has so many in the spring.

The almonds had bloomed and the blossoms fallen; the apricots also, and the peaches and pears; on all the orchards of these fruits had come a filmy tint of green, so light it was hardly more than a shadow on the gray. The willows were

vivid light green, and the orange groves dark and glossy like laurel. The billowy hills on either side the valley were covered with verdure and bloom — myriads of low blossoming plants, so close to the earth that their tints lapped and overlapped on each other, and on the green of the grass, as feathers in fine plumage overlap each other and blend into a changeful color.

The wild mustard in Southern California is like that spoken of in the New Testament, in the branches of which the birds of the air may rest. Coming up out of the earth, so slender a stem that dozens can find starting place in an inch, it darts up, a slender straight shoot, five, ten, twenty feet, with hundreds of fine feathery branches locking and interlocking with all the other hundreds around it, till it is an inextricable network of lace. Then it bursts into yellow bloom still finer, more feathery and lace-like. The stems are so infinitesimally small, and of so dark a green, that at a short distance they do not show, and the cloud of blossom seems floating in the air; at times it looks like golden dust. With a clear blue sky behind it, as it is often seen, it looks like a golden snow-storm.

Looking back, Juan Canito called: "What are you gaping at there, you Allessandro! Hurry, now, and get your men to work. After waiting

till near midsummer for this shearing, we'll make as quick work of it as we can. Have you got your best shearers here?"

"Ay, that I have," answered Allessandro; "not a man of them but can shear his hundred a day. There is not such a band as ours in all San Diego County; and we don't turn out the sheep all bleeding, either; you'll see scarce a scratch on all their sides."

"Humph!" retorted Juan Can. "'Tis a poor shearer, indeed, that draws blood to speak of. I've sheared many a thousand sheep in my day, and never a red stain on the shears. But the Mexicans have always been famed for good shearers."

Juan's invidious emphasis on the word "Mexicans" did not escape Allessandro. "And we Indians also," he answered, betraying no annoyance.

At the sheep-shearing sheds and pens all was stir and bustle. The shearing shed was a huge caricature of a summer-house, — a long, narrow structure, sixty feet long by twenty or thirty wide, all roof and pillars; no walls; the supports, slender rough posts, as far apart as was safe, for the upholding the roof, which was of rough planks loosely laid from beam to beam. On three sides of this were the sheep-pens filled with sheep and lambs.

A few rods away stood the booths in which the shearers' food was to be cooked and the shearers

fed. These were mere temporary affairs, roofed only by willow boughs with the leaves left on. Near these, the Indians had already arranged their camp. A hut or two of green boughs had been built, but for the most part they would sleep rolled up in their blankets on the ground. There was a brisk wind, and the gay-colored wings of the wind-mill blew furiously round, pumping out into the tank below a stream of water so swift and strong, that as the men crowded around, wetting and sharpening their knives, they got well spattered, and had much merriment, pushing and elbowing each other in the spray.

A high four-posted frame stood close to the shed ; in this, swung from the four corners, hung one of the great sacking bags in which the fleeces were to be packed. A big pile of these bags lay on the ground at the foot of the posts. Juan Can eyed them with a chuckle. "We'll fill more than those before night, Señor Filipe," he said. He was in his element, Juan Can, at shearing times. Then came his reward for the somewhat monotonous and stupid year's work. The world held no better feast for his eyes than the sight of a long row of big bales of fleece, tied, stamped with the Moreno brand, ready to be drawn away to the mills. "Now, there is something substantial," he thought ; "no chance of wool going amiss in market !"

If the year's crop were good, Juan's happiness was assured for the next six months. If it proved poor, he turned devout immediately, and spent the next six months calling on the saints for better luck, and redoubling his exertions with the sheep.


On one of the posts of the shed short projecting slats were nailed, like half-rounds of a ladder. Lightly as a rope-walker Felipe ran up these, to the roof, and took his stand there, ready to take the fleeces and pack them in the bag as fast as they should be tossed up from below. Luigo, with a big leather wallet fastened in front of him, filled with five cent pieces, took his stand in the centre of the shed. The thirty shearers, running into the nearest pen, dragged each his sheep into the shed, in the twinkling of an eye had the creature between his knees, helpless, immovable, and the sharp sound of the shears set in. The sheep-shearing had begun. No rest now. Not a second's silence from the bleating, baa-ing, opening and shutting, clicking, sharpening of shears, flying of fleeces through the air to the roof, pressing and stamping them down in the bales; not a second's intermission, except the hour of rest at noon, from sunrise to sunset, till the whole eight thousand of the Señora Moreno's sheep were shorn. It was a dramatic spectacle. As soon as a sheep was shorn, the shearer ran with the fleece in his hand to Luigo, threw it down on a

table, received his five cent piece, dropped it in his pocket, dragged out another sheep, and in less than five minutes was back again with a second fleece. The shorn sheep, released, bounded off into another pen, where, light in the head no doubt from being three to five pounds lighter on their legs, they trotted around bewilderedly for a moment, then flung up their heels and capered for joy.

It was warm work. The dust from the fleeces and the trampling feet filled the air. As the sun rose higher in the sky the sweat poured off the men's faces; and Felipe, standing without shelter on the roof, worked on, though his face was purple, and his head throbbing. After the bag of fleeces is half full, the packer stands in it, jumping with his full weight on the wool, as he throws in the fleeces, to compress them as much as possible.

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The shearing had been over and done by ten in the morning, it was now near sunset. The economical Juan Can, finding that the work would be done by ten, and supposing they would be off before noon, had ordered only two sheep killed for them the day before, and the mutton was all gone, and old Marda, getting her cue from Juan, had cooked no more *frijoles* than the family needed for themselves; so the poor shearers



had indeed had a sorry day of it. The blankets were rolled up, the saddles collected, the ponies caught and driven to the shed, when Ramona and Margarita were seen coming at full speed from the house.

"Alessandro! Alessandro!" cried Ramona, out of breath, "I have only just now heard that the men have had no dinner to-day. I am ashamed. Everybody thought they were going away this morning. Now they must have a good supper before they go. It is already cooking. Tell them to wait."

Those of the men who understood the Spanish language, in which Ramona spoke, translated it to those who did not, and there was a cordial outburst of thanks to the Señorita from all lips. All were only too ready to wait for the supper.

"Supper will be ready in an hour," said Ramona. "Please let them stay; one hour can't make any difference."

Alessandro smiled. "It will take nearer two, Señorita, before they are off," he said; "but it shall be as you wish, and many thanks to you, Señorita, for thinking of it."

"Oh, I did not think of it myself," said Ramona. "It was Margarita, here, who came and told me. She knew we would be ashamed to have the shearers go away hungry. I am afraid they are very hungry

indeed," she added ruefully. "It must be dreadful to go a whole day without anything to eat. They had their breakfast soon after sunrise, did they not?"

"Yes, Señorita," answered Alessandro, "but that is not long; one can very well do without food for one day. I often do. Will the Señorita let me help, too? Is there anything I can do?"

"Oh, no," she cried, "there is not. Yes, there is, too. You can help carry the things down to the booth. You and your men might carry all the supper over. I'll call you when we are ready."

The men sat down in a group and waited contentedly, smoking, chatting, and laughing. Alessandro walked up and down between the kitchen and the shed. He could hear the sounds of rattling dishes, jingling spoons, frying, pouring water. Savory smells began to be wafted out. Evidently old Marda meant to atone for the shortcoming of the noon.

Juan Can also heard and smelled what was going on. "May the fiends get me," he growled, "if that wasteful old hussy isn't getting up a feast for those Indians! There's mutton and onions, and peppers stewing, and potatoes, and God knows what else. Well, they'll have to say they were well feasted at the Moreno's — that's one comfort. San José! but it smells well!"



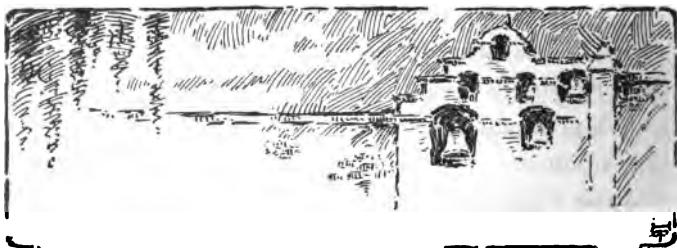
"Run, Margarita," Ramona said. "All is ready now; see if Alessandro is in sight. Call him to come and take the things."

"Alessandro! Alessandro! the supper is ready."

Ramona stood in the doorway holding in her arms a huge smoking platter of the stew; "Take care," she said as she gave it into his hands, "it is very full. The gravy will run over if you are not careful. You are not used to waiting on table."

The men ate fast and greedily, and it was not, after all, more than an hour, when full fed and happy, they were mounting their horses to set off.

Taken from *Ramona*, by Helen Hunt Jackson, published by Little, Brown and Co.



# LOGGING

From *The Riverman*

BY

STEWART EDWARD WHITE

Did you ever ride on a log down a river on the spring freshet? It is exciting! *The Riverman* tells how it is done, and the story is so well told that we experience the thrill, the whirl, and the cold bath which attend the rivermen as they ride the logs from the woods where they were cut in the winter, down the river, to the saw mills, hundreds of thousands of them, jamming and piling end on end. We see the wonderful country through which the river flows, follow with the grub boat and camp by the open fires at night. Stewart Edward White wrote the story from his own experiences among the lumbermen of Michigan.

*For young people and adults.*



## LOGGING

A LUMBERMAN, named Orde, had taken the contract to break the rollways which in the season's work would be piled up on the banks. The ice went out early to his satisfaction. As soon as the river ran clear in its lower reaches he took his rear crew to Carlin's rollways.

This crew was forty in number, and had been picked from the best — a hard-bitten, tough band of veterans, weather-beaten, scarred in numerous fights or by the backwoods scourge of small-pox, compact, muscular, fearless, loyal, cynically aloof from those not of their cult, outspoken and free to criticise — in short, men to do great things under the strong leader, and to mutiny at the end of three days under the weak. They piled off the train at Sawyer's, stamped their feet on the board platform of the station, shouldered their "turkeys" and straggled off down the tote-road. It was an eighteen mile walk in. The ground had loosened its frost. The footing was ankle deep in mud and snow water.

Next morning, bright and early, the breaking of the rollways began. During the winter the logs

had been hauled down ice roads to the river where they were "banked" in piles twenty, even thirty, feet in height. The bed of the stream itself was filled with them for a mile, save in the narrow channel left down through the middle to allow for some flow of water; the banks were piled with them, side on, ready to roll down at the urging of the men.

First of all, the entire crew set itself, by means of its peavies, to rolling the lower logs into the current, where they were rapidly borne away. As the waters were now at flood, this was a quick and easy labor. Occasionally some tiers would be stuck together by ice, in which case considerable prying and heaving was necessary in order to crack them apart. But forty men, all busily at work, soon had the river full. Orde detailed some six or eight to drop below in order that the river might run clear to the next section, where the next crew would take up the task. These men, quite simply, walked to the edges of the rollway, rolled a log apiece into the water, stepped aboard, leaned against their peavies and were swept away by the swift current. The logs on which they stood whirled in the eddies, caromed against other timbers, slackened speed, shot away; never did the riders alter their poses of easy equilibrium. From time to time one propelled his craft ashore by hooking to and pushing against other logs. There he stood on some promi-

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ment point, leaning his chin contemplatively against the thick shaft of his peavy, watching the endless procession of logs drifting by. Apparently he was idle, but in reality his eyes missed no shift of the ordered ranks. When a slight hitch or pause, a subtle change in the pattern of the brown carpet, caught his attention, he sprang into life. Balancing his peavy across his body, he made his way by short dashes to the point of the threatened congestion. Then, working vigorously, swept down the stream with the mass, he pulled, hauled, and heaved, forcing the heavy, reluctant timbers from the cohesion that threatened trouble later. Oblivious to his surroundings, he wrenched and pried desperately. The banks of the river drifted by. Point succeeded point, as though withdrawn by some invisible manipulator. Finally he heard at his elbow the voice of the man stationed below him, who had run out from his own point.

“Hullo, Bill,” he replied to this man, “you old slough hog! tie to this!”

“All the time!” agreed Bill cheerfully.

The time was the year 1872, and the place a bend in the river above a long pond terminating in a dam. Beyond this dam, and on a flat lower than it, stood a two-story mill structure. Save for a small, stump-dotted clearing and the road that led from it, all else was forest. Here in the bottom

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lands, following the course of the stream, the hardwoods grew dense, their uppermost branches just beginning to spray out in the first green of spring. Farther back, where the higher lands arose from the swamp, could be discerned the graceful frond of white pines and hemlock, and the sturdy tops of Norways and spruce.

A strong wind blew up the length of the pond. It ruffled the surface of the water, swooping down in fan shaped, scurrying cat's-paws, turning the dark-blue surface as one turns the nap of velvet. At the upper end of the pond it succeeded in raising quite respectable wavelets, which *lap lap lapped* eagerly against a barrier of floating logs that filled completely the mouth of the inlet river. And behind this barrier were other logs, and yet others, as far as the eye could see, so that the entire surface of the stream was carpeted by the brown timbers. A man could have walked down the middle of the river as down a highway.

On the bank, and in a small woods-opening, burned two fires, their smoke ducking and twisting under the buffeting of the wind. The first of these fires occupied a shallow trench dug for its accommodation, and was overarched by a rustic framework from which hung several pails, kettles, and pots. An injured looking, chubby man in a battered brown derby hat moved here and there. He divided his

time between the utensils and an indifferent youth — his "cookee." The other and larger fire centered a rectangle composed of tall racks, built of saplings and intended for drying clothes. Two large tents gleamed white among the trees.

About the drying fire were gathered thirty-odd men. Some were half-reclining before the blaze; others sat in rows on logs drawn close for the purpose; still others squatted like Indians on their heels, their hands thrown forward to keep the balance. Nearly all were smoking pipes.

Every age was represented in this group, but young men predominated. All wore woollen trousers stuffed into leather boots reaching just to the knee. These boots were armed on the soles with rows of formidable sharp spikes or calks, a half and sometimes even three quarters of an inch in length. From the waist down these men wore all alike, as though in a uniform, the outward symbol of their calling. One young fellow sported a bright-colored Mackinaw blanket jacket; another wore a red knit sash with tasselled ends; a third's fancy ran to a bright bandanna about his neck. Head-gear, too, covered wide variations of broader or narrower brim, of higher or lower crown; and the faces underneath those hats differed as everywhere the human countenance differs. Only when the inspection passing the gradations of broad or

narrow, thick or thin, bony or rounded, rested finally on the eyes, would the observer have caught again the caste-mark which stamped these men as belonging to a distinct order, and separated them essentially from other men in other occupations. Blue and brown and gray these eyes were, but all steady and clear with the steadiness and clarity that comes to those whose daily work compels them under penalty to pay close and undeviating attention to their surroundings. This is true of sailors, hunters, plainsmen, cowboys, and tugboat captains. It was especially true of the old-fashioned river-driver, for a misstep, a miscalculation, a moment's forgetfulness of the sullen forces shifting and changing about him could mean for him maiming or destruction. So, finally, to one of the imaginative bent, these eyes, like the "calk-boots," grew to seem part of the uniform, one of the marks of their caste, the outward symbol of their calling.

"Blow, you son of a gun!" cried disgustedly one young fellow with a red bandanna, apostrophizing the wind. "I wonder if there's *any* side of this fire that ain't smoky!"

"Keep your hair on, bub," advised a calm and grizzled old-timer. "There's never no smoke on the *other* side of the fire — whichever that happens to be. And as for the wind — she just makes holiday for the river-hogs."

At this moment the lugubrious, round-faced man in the derby hat stepped aside from the row of steaming utensils he had been arranging.

"Grub pile," he remarked in a conversational tone of voice.

The group arose as one man and moved upon the heap of cutlery and of tin plates and cups. From the open fifty-pound lard pails and kettles they helped themselves liberally; then retired to squat in little groups here and there near the sources of supply. Mere conversation yielded to an industrious silence. Sadly the cook surveyed the scene, his arms folded across the dirty white apron, an immense mental reservation accenting the melancholy of his countenance. After some moments of contemplation he mixed a fizzling concoction of vinegar and soda, which he drank. His rotundity to the contrary notwithstanding, he was ravaged by a gnawing dyspepsia, and the sight of six eggs as a side dish to substantials carried consternation to his interior.

So busily engaged was each after his own fashion that nobody observed the approach of a solitary figure down the highway of the river. The man appeared tiny around the upper bend, momentarily growing larger as he approached. His progress was jerky and on an uneven zigzag, according as the logs lay, by leaps, short runs, brief pauses,

as a riverman goes. Finally he stepped ashore just below the camp; stamped his feet vigorously free of water, and approached the group around the cooking fire.

No one saw him save the cook, who vouchsafed him a stately and lugubrious inclination of the head.

The newcomer was a man somewhere about thirty years of age, squarely built, big of bone, compact in bulk. His face was burly, jolly, and reddened rather than tanned by long exposure. A pair of twinkling eyes and a humorously quirked mouth redeemed his countenance from commonplace.

He spread his feet apart and surveyed the scene.

"Well, boys," he remarked at last in a rollicking big voice, "I'm glad to see the situation hasn't spoiled your appetites."

At this they looked up with a spontaneous answering grin. Tom North laid aside his plate and started to rise.

"Sit still, Tom," interposed the newcomer. "Eat hearty. I'm going to feed yet myself. Then we'll see what's to be done. I think first thing you'd better see to having this wind turned off."

After the meal was finished, North and his principal sauntered to the water's edge, where they stood for a minute looking at the logs and the ruffled expanse of water below.

"Might as well have sails on them and be done with it," remarked Jack Orde reflectively. "Couldn't hold 'em any tighter. The water was slack enough before, but now there seems to be no current at all."

"Case of wait for the wind," agreed Tom North. "Old Daly will be red-headed. He must be about out of logs at the mill. The flood-water's going down every minute, and it'll make the riffles above Redding a holy fright."

The next morning dawned clear and breathless. Before daylight the pessimistic cook was out, his fire winking bravely against the darkness. His only satisfaction of the long day came when he aroused the men from the heavy sleep into which daily toil plunged them. With the first light the entire crew were at the banks of the river.

As soon as the wind died the logs had begun to drift slowly into the open water. The surface of the pond was covered with the scattered timbers floating idly. After a few moments the clank of the bars and ratchet was heard as two of the men raised the heavy sluice-gate on the dam. A roar of water, momentarily increasing, marked the slow rise of the barrier. A very imaginative man might then have made out a tendency forward on the part of those timbers floating nearest the centre of the

pond. It was a very sluggish tendency, however, and the men watching critically shook their heads.

Four more had by this time joined the two men who had raised the gate, and all together, armed with long pike poles, walked out on the funnel-shaped booms that should concentrate the logs into the chute. Here they prodded forward the few timbers within reach, and waited for more.


These were a long time coming. Members of the driving crew leaped shouting from one log to another. Sometimes, when the space across was too wide to jump, they propelled a log over either by rolling it, paddling it, or projecting it by the shock of a leap on one end. In accomplishing these feats of tight-rope balance, they stood upright and graceful, quite unconscious of themselves, their bodies accustomed by long habit to nice and instant obedience to the almost unconscious impulses of the brain. Only their eyes, intent, preoccupied, blazed out by sheer will-power the unstable path their owners should follow. Once at the forefront of the drive, the men began vigorously to urge the logs forward. This they accomplished almost entirely by main strength, for the sluggish current gave them little aid. Under the pressure of their feet as they pushed against their implements, the logs dipped, rolled, and plunged. Nevertheless, they

worked as surely from the decks of these unstable craft as from the solid earth itself.

In this manner the logs in the centre of the pond were urged forward until, above the chute, they caught the slightly accelerated current which should bring them down to the pike-men at the dam. Immediately, when this stronger influence was felt, the drivers zigzagged back up stream to start a fresh batch. In the meantime a great many logs drifted away to right and left into the stagnant water, where they lay absolutely motionless. The moving of them was deferred for the "sacking crew," which would bring up the rear.

Jack Orde wandered back and forth over the work, his hands clasped behind his back, a short pipe clenched between his teeth. To the edge of the drive he rode the logs, then took to the bank, and strolled down to the dam. There he stood for a moment gazing aimlessly at the water making over the apron, after which he returned to the work. No cloud obscured the serene good-nature of his face.

At this moment the cook stepped into view, and, making a trumpet of his two hands, sent across the water a long, weird, and not unmusical cry. The men at once began slowly to drift in the direction of the camp. There, when the tin plates had all been filled, and each had found a place to his



liking, Orde addressed them. His manner was casual and conversational.

"Boys," said he, "the old mossback who owns that dam has come up here loaded to scatter. He's built up the sill of that gate until we can't get a draw on the water, and he refuses to give, lend or sell us the right to cut her out. I've made him every reasonable proposition, but all I get back is quotations from the prophets. Now, we've got to get those logs out—that's what we're here for. A bunch of whitewater birlers we'd look if we got hung up by an old mossback in a plug hat. Johnny Sims, what's the answer?"

"Cut her out," grinned Johnny Sims briefly.

"Correct!" replied Orde with a chuckle. "Cut her out."

The chopping crew descended to the bottom of the sluice, the gate of which had been shut, and began immediately to chop away the apron. As the water in the pond above had been drawn low by the morning's work, none overflowed the gate, so the men were enabled to work dry. Below the apron, of course, had been filled in with earth and stones. As soon as the axe-men had effected an entry to this deposit, other men with shovels and picks began to remove the filling.

The work had continued nearly an hour when Orde commanded the fifty or more idlers back to

camp. They filled their pipes and settled down. Ordinarily from early in the morning till very late at night the riverman is busy every instant at his dangerous and absorbing work. Those affairs which do not immediately concern his task — as the swiftness of the rapids, the state of the flood, the curves of the streams, the height of the water, the obstructions of channels, the quantities of logs — pass by the outer fringe of his consciousness, if indeed they reach him at all. Thus, often he works all day up to his waist in a current bearing the rotten ice of the first break-up, or endures the rigors of a belated snow with apparent indifference. You or I would be exceedingly uncomfortable; would require an effort of fortitude to make the plunge. Yet these same men, absorbed in the mighty problems of their task, have little attention to spare to such things. The cold, the discomfort, the hunger, the weariness, all pass as shadows on the background. In like manner the softer moods of the spring rarely penetrate through the concentration of faculties on the work. The warm sun shines; the birds by thousands flutter and twitter and sing their way north; the delicate green of spring, showered from the hand of the passing Sower, sprinkles the tops of the trees, and gradually sifts down through the branches; the great, beautiful silver clouds sail without actual existence to these

men. The logs, the river — those are enough to strain all the faculties a man possesses, and more.

When the meal was finished, the men lit their pipes and went back to work philosophically. With entire absorption in the task, they dug, chopped, and picked. The dull sound of blows, the gurgle and trickle of the water, the occasional grunt or brief comment of a riverman alone broke the calm of evening.

All night the work went on, the men spelling each other at intervals of every few hours. By three o'clock the main abutments had been removed. The gate was then blocked to prevent its fall when its nether support should be withdrawn, and two men, leaning over cautiously, began at arm's length to deliver their axe-strokes against the middle of the sill-timbers of the sluice itself, notching each heavy beam deeply that the force of the current might finally break it in two. The night was very dark, and very still. Even the night creatures had fallen into the quietude that precedes the first morning hours. The muffled, spaced blows of the axes, the low-voiced comments or directions, the crackle of the fire ashore, were thrown by contrast into an undue importance. Men in blankets, awaiting their turn, slept close to the blaze.


Suddenly the vast silence of before dawn was broken by a loud and exultant yell from one of the

axe-men. At once the two scrambled to the top of the dam. The blanketed figures about the fire sprang to life. A brief instant later the snapping of wood fibres began like the rapid explosions of infantry fire; a crash and bang of timbers smote the air; and then the river, exultant, roaring with joy, rushed from its pent quietude into the new passage opened for it. At the same moment, as though at the signal, a single bird, premonitor of the yet distant day, lifted up his voice, clearly above the tumult.

Orde stormed into the camp up stream, his eyes bright, his big voice booming exultantly.

"Roll out, you river-hogs!" he shouted to those who had worked out their shifts earlier in the night. "Roll out, you web-footed sons of guns, and hear the little birds sing praise!"

On the river the work was going forward with the precision of clockwork. The six-foot lowering of the sluice-way had produced a fine current, which sucked the logs down from above. Men were busily engaged in "sacking" them from the sides of the pond toward its centre, lest the lowering water should leave them stranded. Below the dam the jam crew was finding plenty do to in keeping them moving in the white water and the shallows. A fine sun, tempered with the prophetic warmth of later spring, animated the scene.



Some of the logs shot away down the current, running freely. To these the crews were not required to pay any attention. With luck, a few of the individual timbers would float ten, even twenty, miles before some chance eddy or fortuitous obstruction would bring them to rest. Such eddies and obstructions, however, drew a constant toll from the ranks of the free moving logs, so that always the volume of timbers caught and stranded along the sides of the river increased. To restore these to the faster water was the especial province of the last and most expert crew — the rear.

Orde discovered about noon that the jam crew was having its troubles. Immediately below (the) dam ran a long chute strewn with boulders, which was alternately a shallow or stretch of white-water, according as the stream rose or fell. Ordinarily the logs were flushed over this declivity by opening the gate, behind which a head of water had accumulated. Now, however, the efficiency of the gate had been destroyed. Orde early discovered that he was likely to have trouble in preventing the logs rushing through the chute from grounding into a bad jam on the rapids below.

For a time the jam crew succeeded in keeping the "wings" clear. In the centre of the stream, however, a small jam formed, like a pier. Along the banks logs grounded, and were rolled over by

their momentum into places so shallow as to discourage any hope of refloating them unless by main strength. As the sluicing of the nine or ten million feet that constituted this particular drive went forward, the situation rapidly became worse.

"Tom, we've got to get the flood water unless we want to run into an awful job there," said Orde to the foreman. "I wonder if we can't drop that gate 'way down to get something for a head."

The two men examined the chute and the sluicagate attentively for some time.

"If we could clear out the splinters and rubbish, we might spike a couple of saplings on each side of the gate to slide down into," speculated North. "Might try her on."

The logs were held up in the pond, and a crew of men set to work to cut away, as well as they might in the rush of water, the splintered ends of the old sill and apron. It was hard work. The current rendered footing impossible, so all the work had to be done from above. Wet wood gripped the long saws vice-like, so that a man's utmost strength could scarcely budge them. The water deadened the force of the axe blows. Nevertheless, with the sure persistence of the rivermen, they held it. Orde, watching them a few moments, satisfied himself they would succeed, and so departed up river to take charge of the rear.

This crew he found working busily among some overflowed woods. They were herding the laggards of the flock. The subsidence of the water consequent upon the opening of the sluice-gate had left stranded and in shallows many hundreds of the logs. These men sometimes, waist deep in the icy water, owing to the extreme inequality of the bottom, were rolling them over and over with their peavies until once more they floated. Some few the rivermen were forced to carry bodily, ten men to a side, the peavies clamped in as handles. When once they were afloat, the task became easier. From the advantage of deadwood, stumps, or other logs the "sackers" pushed the unwieldy timbers forward, leaping, splashing, shoving, until at last the steady current of the main river seized the logs and bore them away. With marvellous skill they topped the dripping, bobby, rolling timbers, treading them over and over, back and forth, in unconscious preservation of equilibrium.

There was a good deal of noise and fun at the rear. The crew had been divided and a half worked on either side of the river. A rivalry developed as to which side should advance fastest in the sacking. It became a race. Momentary success in getting ahead of the other fellow was occasion for exultant crowing, while a mishap called forth ironic cheers and catcalls from the rival camp. Just as Orde

came tramping up the trail, one of the riverman's calks failed to "bite" on an unusually smooth, barked surface. His foot slipped; the log rolled; he tried in vain to regain his balance, and finally fell in with a heavy splash.

The entire river suspended work to send up a howl of delight. As the unfortunate crawled out, dripping from head to foot, he was greeted by a flood of sarcasm and profane inquiry that left no room for his acknowledged talents of repartee. Cursing and ashamed, he made his way ashore over the logs, spirting water at every step. There he wrung out his woollen clothes as dry as he could, and resumed work.

The stray logs floating down with the current the rivermen caught. The jam was taking shape. Slowly it formed, low and broad. Then, as the water gathered pressure, the logs began to slip over one another. The weight of the topmost sunk those beneath to the bed of the stream. Immediately the pressure increased. More logs were piled on top. Below the dam the water fell almost to nothing, and above it, swirling in eddies, grumbling fiercely, bubbling, gurgling, searching busily for an opening, the river, turned back on itself, gathered its swollen and angry forces.


At once the crew swarmed across the log barrier to a point above the centre pier. This they attacked

with their peavies, rolling the top logs off into the current below. In less than no time they had torn out quite a hole in the top layer. The river rushed through the opening. Immediately the logs in the wings were tumbled in from either side. At first the men had to do all the work, but soon the river itself turned to their assistance. Timbers creaked and settled, or rose slightly buoyant as the water loosened the tangle. Men trod on the edge of expectation. Constantly the logs shifted, and as constantly the men shifted also, avoiding the upheavals and grindings together, wary eyes estimating the correlation of the forces into whose crushing reach a single misstep would bring them. The movement accelerated each instant, as the music of the play hastens to the climax. Then, with a creak and a groan, the jam moved, hesitated, moved again; finally, urged by the frantic river, went out in a majestic crashing and battering of logs.

The rivermen stood at attention, their peavies poised, watching cat-eyes the symptoms of the break. Twice or thrice several of the men ran forward, used their peavies vigorously for a moment or so, and stood back to watch the result. Only at the very last, when it would seem that some of them must surely be caught, did the river-jacks, using their peavy-shafts as balancing poles, zigzag calmly to shore across the plunging logs.

By evening the sluice-gate had been roughly provided with pole guides down which to slide to the bed of the river. The following morning saw the work going on. During the night a very good head of water gathered behind the lowered gate. The rear crew brought down the afterguard of logs to the pond. The sluicers with their long pike-poles thrust the logs into the chute. The jam crew, scattered for many miles along the lower stretches, kept the drive going; leaning for hours on the shafts of their peavies watching contemplatively the orderly ranks as they drifted by, sleepy, on the bosom of the river; occasionally gathering, as the filling of the river gave warning, to break a jam.

During the thirty-three days of the drive, some were disagreeable. April rains are cold and persistent — the proverbs as to showers were made for another latitude. Drenched garments are bad enough when a man is moving about and has daylight; but when night falls, and the work is over, he likes a dry place and a change with which to comfort himself. Dry places there were none. Even the interior of the tents became sodden by continual exits and entrances of dripping men, while garments speedily dampened in the shiftings of camp which, in the broader reaches of the river, took place nearly every day. Men worked in soaked garments, slept in damp blankets. Charlie



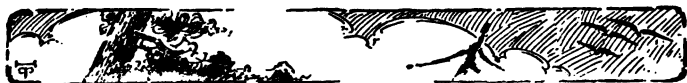
cooked only by virtue of persistence. The rivermen ate standing up, as close to the sputtering, roaring fires as they could get. Always the work went forward.

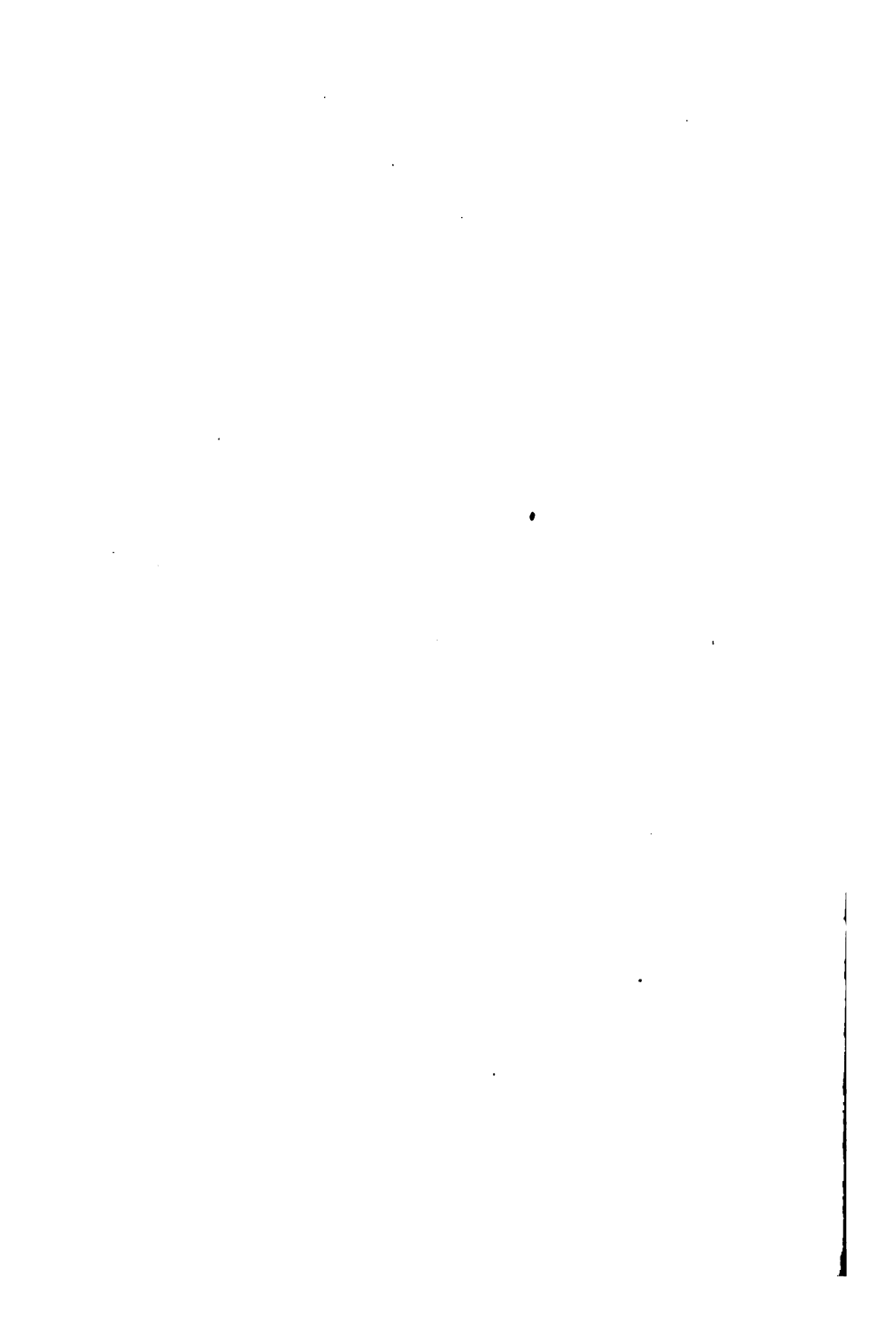
But there were other times when a golden sun rose each morning a little earlier on the green and joyous world. The river ran blue. Migratory birds fled busily northward — robins, flute-voiced bluebirds, warblers of many species, sparrows of different kinds, shore birds and ducks, the sweet-songed thrushes. Little tepid breezes wandered up and down, warm in contrast to the faint snow-chill that even yet lingered in the shadows. Sounds carried clearly, so that the shouts and banter of the rivermen were plainly audible up the reaches of the river. Ashore moist and aggressive green things were pushing up through the watery earth from which, in shade, the last frost had not yet departed. At camp the fires roared invitingly. Charlie's grub was hot and grateful. The fir-beds gave dreamless sleep.

The drive went down as far as Redding in thirty-three days. It had its share of tribulation. The men worked fourteen and sixteen hours at times. Several bad jams relieved the monotony. Three dams had to be sluiced through. Problems of mechanics arose to be solved on the spot; problems that an older civilization would have attacked

deliberately and with due respect for the seriousness of the situation and the dignity of engineering. Orde solved them by a rough-and-ready but very effective rule of thumb. He built and abandoned structures which would have furnished opportunity for a winter's discussion to some committees; just as, earlier in the work, the loggers had built through a rough country some hundreds of miles of road better than railroad grade, solid in foundation, and smooth as a turnpike, the quarter of which would have occupied the average county board of supervisors for five years. And while he was at it, Orde kept his men busy and satisfied. Your white-water birler is not an easy citizen to handle. Yet never once did the boss appear hurried or flustered. Always he wandered about, his hands in his pockets, chewing a twig, his round, wind-reddened face puckered humorously, his blue eyes twinkling, his square, burly form lazily relaxed. He seemed to meet his men almost solely on the plane of good-natured chaffing. Yet the work was done, and done efficiently, and Orde was the man responsible.

Taken from *The Riverman*, by Stewart Edward White, published by The McClure Book Company.





# GOLD

From *Gold*

BY

STEWART EDWARD WHITE

The opening up of the wonder-empire of the California coast is the theme of Stewart Edward White's *Gold*. Gold, in his book, as in reality, means not only the so-called precious metal itself but Opportunity — the opportunity given to every man to dig his livelihood from the earth without let or hindrance of any other man. This gives his book the epic quality.

The four young adventurers of this narrative come to California to tear her gold from her, but settle to live in her. "It isn't the gold. That is the bait. It's the country. After the gold is dug and scattered and all but forgotten, we will find that we have fallen heirs to an empire."

*For young people and adults.*



## GOLD

WE stood in between the hills that guarded the bay of San Francisco about ten o'clock of an early spring day. A fresh cold wind pursued us; and the sky above us was bluer than I had ever seen it before, even on the Isthmus. To our right some great rocks were covered with seals and sea lions, and back of them were hills of yellow sand. A beautiful great mountain rose green to our left, and the water beneath us swirled and eddied in numerous whirlpools made by the tide.

Everybody was on deck and close to the rail. We strained our eyes ahead; and saw two islands, and beyond a shore of green hills. None of us knew where San Francisco was located, nor could we find out. The ship's company were much too busy to pay attention to our questions. The great opening out of the bay beyond the long narrows was therefore a great surprise to us; it seemed as vast as an inland sea. We hauled to the wind, turning sharp to the south, and glided past the bold point of rocks.

Then we saw the city concealed in a bend of the cove. It was mainly of canvas; hundreds, perhaps

thousands of tents and canvas houses scattered about the sides of the hills. The flat was covered with them, too, and they extended for some distance along the shore of the cove. A great dust, borne by the wind that had brought us in, swept across the city like a cloud of smoke. Hundreds and hundreds of vessels lay at anchor in the harbor, a vast fleet.

We were immediately surrounded by small boats, and our decks filled with men. We had our first sight of the genuine miners. They proved to be as various as the points of the compass. Big men, little men, clean men, dirty men, shaggy men, shaven men, but all instinct with an eager life and energy I have never seen equalled. Most wore the regulation dress—a red shirt, pantaloons tucked into the tops of boots, broad belts with sometimes silver buckles, silk Chinese sashes of vivid raw colors, a revolver, a bowie knife, a floppy old hat. Occasionally one, more dignified than the rest, sported a shiny top hat; but always with the red shirt. These were merchants, and men permanently established in the town.

They addressed us eagerly, asking a thousand questions concerning the news of the outside world. We could hardly answer them in our desire to question in return. Were the gold stories really true? Were the diggings very far away? Were the

diggings holding out? What were the chances for newcomers? And so on without end; and the burden always of gold! gold! gold!

We were answered with the enthusiasm of an old-timer welcoming a newcomer to any country. Gold! Plenty of it! They told us, in breathless snatches, the most marvellous tales — one sailor had dug \$17,000 in a week; another man, a farmer from New England, was taking out \$5000 to \$6000 daily. They mentioned names and places. They pointed to the harbor full of shipping. "Four hundred ships," said they, "and hardly a dozen men aboard the lot! All gone to the mines!" And one man snatching a long narrow buckskin bag from his pocket, shook out of its mouth to the palm of his hand a tiny cascade of glittering yellow particles — the Dust! We shoved and pushed, crowding around him to see this marvellous sight. He laughed in a sort of excited triumph, and tossed the stuff into the air. The breeze caught it and scattered it wide. A number of the little glittering particles clung to my rough coat, where they flashed like spangles.

"Plenty more where that came from!" cried the man; and turned away with a reckless laugh.

Filled with the wine of this new excitement we finally succeeded in getting ashore in one of the ship's boats.

We landed on a flat beach of deep black sand. It was strewn from one end to the other by the most extraordinary wreckage. There were levers, cog-wheels, cranks, fans, twisted bar, and angle iron, in all stages of rust and disintegration. Some of these machines were half buried in the sand; others were tidily laid up on stones as though just landed. They were of copper, iron, zinc, brass, tin, wood. We recognized the genus at a glance. They were, one and all, patent labour-saving gold washing machines, of which we had seen so many samples aboard ship. At this sight vanished the last remains of envy I had ever felt for the owners of similar contraptions.

We looked about for some sort of conveyance into which to dump our belongings. Apparently none existed. Therefore we piled most of our effects neatly above high tide, shouldered our bundles, and started off up the single street.

On either side this thoroughfare stood hundreds of open sheds and buildings in the course of construction. Goods of all sorts, and in great quantity, lay beneath them, wholly or partially exposed to the dust and weather. Many unopened bales had been left in the open air. One low brick building of a single story seemed to be the only substantial structure in sight. We saw quantities of calicos, silks, rich furniture, stacks of the pieces of knock-

down houses, tierces of tobacco, piles of all sorts of fancy clothing. The most unexpected and incongruous items of luxury seemed to have been dumped down here from the corners of the earth, by the four hundred ships swinging idly at anchor in the bay.

The street was, I think, the worst I have ever seen anywhere. It was a morass of mud, sticky, greasy mud, of some consistency, but full of water-holes and rivulets. It looked ten feet deep; and I should certainly have ventured out on it with misgivings. And yet, incongruously enough, the surface ridges of it had dried, and were lifting into the air in the form of dust! This was of course my first experience with that common California phenomenon, and I was greatly astonished.

An attempt had been made to supply footing for pedestrians. Bags of sand had been thrown down, some rocks, a very few boxes and boards. Then our feet struck something soft and yielding, and we found we were walking over hundred pound sacks of flour marked as from Chili. There must have been many hundreds of them. A man going in the opposite direction sidled past us.

"Cheaper than lumber," he said briefly, seeing our astonishment.

"I'd hate to ask the price of lumber," remarked one of our ship's companions, with whom — and a

number of others — we were penetrating the town. This man carried only a very neat black morocco satchel and a net bag containing a half dozen pine-apples, the last of a number he had brought from the Isthmus. The contrast of that morocco bag with the rest of him was quite as amusing as any we saw about us; though, of course, he did not appreciate that.

We walked on flour for a hundred feet or so, and then came to cook stoves. I mean it. A battalion of heavy iron cook stoves had been laid side by side to form a causeway. Their weight combined with the traffic over them had gradually pressed them down into the mud until their tops were nearly level with the surface. Naturally the first merry and drunken joker had shied the lids into space. The pedestrian had now either to step in and out of fire boxes or try his skill on narrow ledges! Next we came to a double row of boxes of tobacco; then to some baled goods, and so off onto solid ground.

We passed many people, all very intent on getting along safely. From the security of the shed stores the proprietors and an assorted lot of loafers watched proceedings with interest. The task of crossing the street from one side to the other, especially, was one not lightly to be undertaken! A man had to balance, to leap, to poise; and at last probably, to teeter back and forth trying to keep his balance like

a small boy on a fence rail, until, with an oath of disgust, he stepped off into the slime.

When we had gained the dry ground near the head of the street we threw down our burdens for a rest.

"I'll give you ten dollars for those pineapples!" offered a passerby, stopping short.

Our companion quickly closed the bargain.

"What do you think of that?" he demanded of us wide-eyed, and in the hearing of the purchaser.

The latter grinned a little, and hailed a man across the street.

"Charley!" he yelled. "Come over here!"

The individual addressed offered some demur, but finally picked his way across to us.

"How do you like these?" demanded the pineapple purchaser, showing his fruit.

"Jerusalem!" cried Charley admiringly, "where did you get them? Want to sell 'em?"

"I want some myself, but I'll sell you three of them."

"How much?"

"Fifteen dollars."

"Give 'em to me."

The first purchaser grinned openly at our companion.

The latter followed into the nearest store to get his share of the dust weighed out. His face wore a very thoughtful expression.

The square itself was crowded with people moving to and fro. The solid majority of the crowd consisted of red and blue shirted miners; but a great many nations and frames of mind seemed to be represented. Chinese merchants, with red coral buttons atop their stiff little skullcaps, wandered slowly, their hands tucked in capacious sleeves of the richest brocade. We had seen few of this race; and we looked at them with the greatest interest, examining closely their broad bland faces, the delicate lilacs and purples and blues of their rich costumes, the swaying silk braided queues down their backs. Other Chinese, of the lower castes, clad in blue canvas with broad bowl-shaped hats of straw on their heads, wormed their way through the crowd balancing baskets at the ends of poles. Rivalling the great Chinese merchants in their leisure, strolled the representatives of the native race, the Spanish Californians. They were darkly handsome men, dressed gloriously in short velvet jackets, snowy ruffles, plush trousers flaring at the bottom, and slit up the side of the leg, soft leather boots, and huge spurs ornamented with silver. They sauntered to and fro, smoking brown-paper cigarettos. Besides these two, the Chinese and Californians, but one other class seemed to be moving with any deliberation. These were men seen generally alone, or at most in pairs. They were

quiet, waxy pale, dressed always neatly in soft black hat, white shirt, long black coat, and varnished boots. In the face of a general gabble they seemed to remain indifferently silent, self-contained and aloof. To occasional salutations they responded briefly and with gravity.

"Professional gamblers," said Talbot.

Two days later Yank, Johnny, and I embarked aboard a small bluff-bowed sailboat, waved our farewells to Talbot standing on the shore, and laid our course to cross the blue bay behind an island called Alcatraz. Our boatman was a short, swarthy man, with curly hair and gold rings in his ears. He handled his boat well, but spoke not at all.

The breeze was strong, and drove even our rather clumsy craft at considerable speed. We stared ahead of us, all eyes. The bay was a veritable inland sea; and the shores ahead of us lay flat and wide, with blue hazy hills in the distance, and a great mountain hovering in midair to our right. Black cormorants going upwind flapped heavily by us just above the water, their necks stretched out. Gulls wheeled and screamed above us, or floated high and light like corks over the racing waves. Rafts of ducks lay bobbing, their necks furred, their heads close to their bodies.

Altogether it was a pleasant sail. The distant flat shores drew nearer. We turned a corner and

glided up the reaches of a wide beautiful river. Never have I seen so many ducks and geese of all kinds. They literally covered the surface of the water, and fairly seemed to jostle each other as they swam busily to and fro, intent on some business of their own. Their comfortable, low conversational clucking and quacking was a pleasure to hear.

Within a half hour we landed on a little island of solid ground. Here we made camp for the night.

All next day, and the days after, being luckily favored by steady fair winds, we glided up the river. The last day out we came into a wide bottom-land country with oaks. At noon we discerned ahead of us a low bluff, and a fork in the river; and among the oak trees the gleam of tents, and before them a tracery of masts where the boats and small ships lay moored to the trees.


We disembarked into a welter of confusion. Dust, men, mules, oxen, bales, boxes, barrels, and more dust. Everything was in the open air. Tents were pitched in the open, under the great oaks, anywhere and everywhere. Next the river, and for perhaps a hundred yards from the banks, the canvas structures were arranged in rows along what were evidently intended to be streets; but beyond that every one simply "squatted" where he pleased. We tramped about until we found a clear space, and

there dumped down our effects. They were simple enough; and our housekeeping consisted in spreading our blankets and canvas, and unpacking our frying pan and pots. The entire list of our provisions consisted of pork, flour, salt, tea, coffee, sugar, tobacco, and some spirits.

After supper we went out in a body to see what we could find out concerning our way to the mines. We did not even possess a definite idea as to where we wanted to go!

In this quest we ran across our first definite discouragement. The place was full of men and they were all willing to talk. According to them the whole gold-fable was vastly exaggerated. To be sure there was gold, no one could deny that, but it occurred very rarely, and in terrible places to get at. One had to put in ten dollars' worth of work, to get out one dollar's worth of dust. And provisions were so high that the cost of living ate up all the profits. Besides, we were much too late. All the good claims had been taken up and worked out by the earliest comers. A man was a fool ever to leave home, but a double-dyed fool not to return as soon as possible. Thus the army of the discouraged.

We continued our inquiries, however, and had soon acquired a mass of varied information. The nearest mines were about sixty miles away; we



could get our freight transported that far by the native Californian *cargadores* at fifty dollars a hundredweight. Or we could walk and carry our goods. Or we might buy a horse or so to pack in our belongings. Fifty dollars a hundred seemed pretty steep for freighting; we would not be able to carry all we owned on our backs; we decided to buy horses.

Accordingly next morning, after a delicious sleep under the open sky, we set out to cover the three or four miles to Sutter's Fort.

This was my first sight of the California country landscape, and I saw it at the most beautiful time of the year. The low-rolling hills were bright green, against which blended the darker green of the park-like oaks. Over the slopes were washes of color where the wild flowers grew, like bright scarves laid out in the sun. They were of deep orange, or an equally deep blue, or, perhaps, of mingled white and purple. Each variety, and there were many of them, seemed to grow by itself so that the colors were massed. Johnny muttered something about "the trailing glory — banners of the hills"; but whether that was a quotation or just Johnny I do not know.

We topped a rise and advanced on Sutter's Fort as though we intended by force and arms to take that historic post.

We loaded our pack-horses, and set off next morning early on the trail up the American River. At last, it seemed to us, we were really under way; as though our long journeyings and many experiences had been but a preparation for this start.

The morning was a very fine one. Every little while we stopped to readjust the burdens to our animals. A mountaineer had showed us how to lash them on, but our skill at that sort of thing was *miner's*, and the packs would not hold. We had to do them one at a time, using the packed animal as a pattern from which to copy the hitch on the other. However we got on well enough, and mounted steadily by the turns and twists of an awful road, following the general course of the river below us.

The next day lifted us into the mountains. Big green peaks across which hung a bluish haze showed themselves between the hills. Along the roadside, rarely, we came upon rough-looking log cabins, or shacks of canvas, or tents. The owners were not at home.

We came upon the diggings quite suddenly. The trail ran around the corner of a hill, and there they were below us! In a wide, dry steam bottom perhaps fifty men were working busily, like a lot of ants. Some were picking away at the surface of the ground, others had dug themselves down

waist deep, and stooped and rose like legless bodies. Others had disappeared below ground, and showed occasionally only as shovel blades. From so far above the scene was very lively and animated, for each was working like a beaver, and the red shirts made gay little spots of color. On the hillside clung a few white tents and log cabins; but the main town itself, we later discovered, as well as the larger diggings, lay around the bend and upstream.

The camp consisted merely of a closer-knit group of tents, log shacks, and a few larger buildings constructed of a queer combination of heavy hewn timbers and canvas. We drove our animals along the one street, looking for the trail that should lead us back to the diggings. It proceeded along a rough, boulder-strewn river-bed, around a point of rough, jagged rocks, and out to a very wide gravelly flat through which the river had made itself a narrow channel. The flat swarmed with men, all of them busy, and very silent.

Leaving our pack-horses we approached the nearest pair of these men, and stood watching them curiously. One held a coarse screen of willow which he shook continuously above a common cooking-pot, while the other slowly shovelled earth over this sieve. When the two pots, which with the shovel seemed to be all the tools these men possessed, had been half filled thus with the fine earth, the men

carried them to the river. We followed. The miners carefully submerged the pots, and commenced to stir their contents with their doubled fists. The light earth muddied the water, floated upward, and then flowed slowly over the rim of the pots and down the current. After a few minutes of this, they lifted the pots carefully, drained off the water, and started back.

"May we look?" ventured Johnny.

The taller man glanced at us and our pack-horses, and nodded. This was the first time he had troubled to take a good look at us. The bottom of the pot was covered with fine black sand in which we caught the gleam and sparkle of something yellow.

"Is that gold?" I asked, awed.

"That's gold," the man repeated, his rather saturnine features lighting up with a grin. Then seeing our interest, he unbent a trifle. "We dry the sand, and then blow it away," he explained; and then strode back to where his companion was impatiently waiting.

We stumbled on over the rocks and débris. There were probably something near a hundred men at work in the gulch. We soon observed that the pot method was considered a very crude and simple way of getting out the gold. Most of the men carried iron pans full of the earth to the waterside, where, after submerging until the lighter earth

had floated off, they slopped the remainder over the side with a peculiar twisting, whirling motion, leaving only the black sand—and the gold! These pan miners were in the great majority. But one group of four men was doing business on a larger scale. They had constructed what looked like a very shallow baby-cradle on rockers into which they poured their earth and water. By rocking the cradle violently but steadily, they spilled the mud over the sides. Cleats had been nailed in the bottom to catch the black sand.

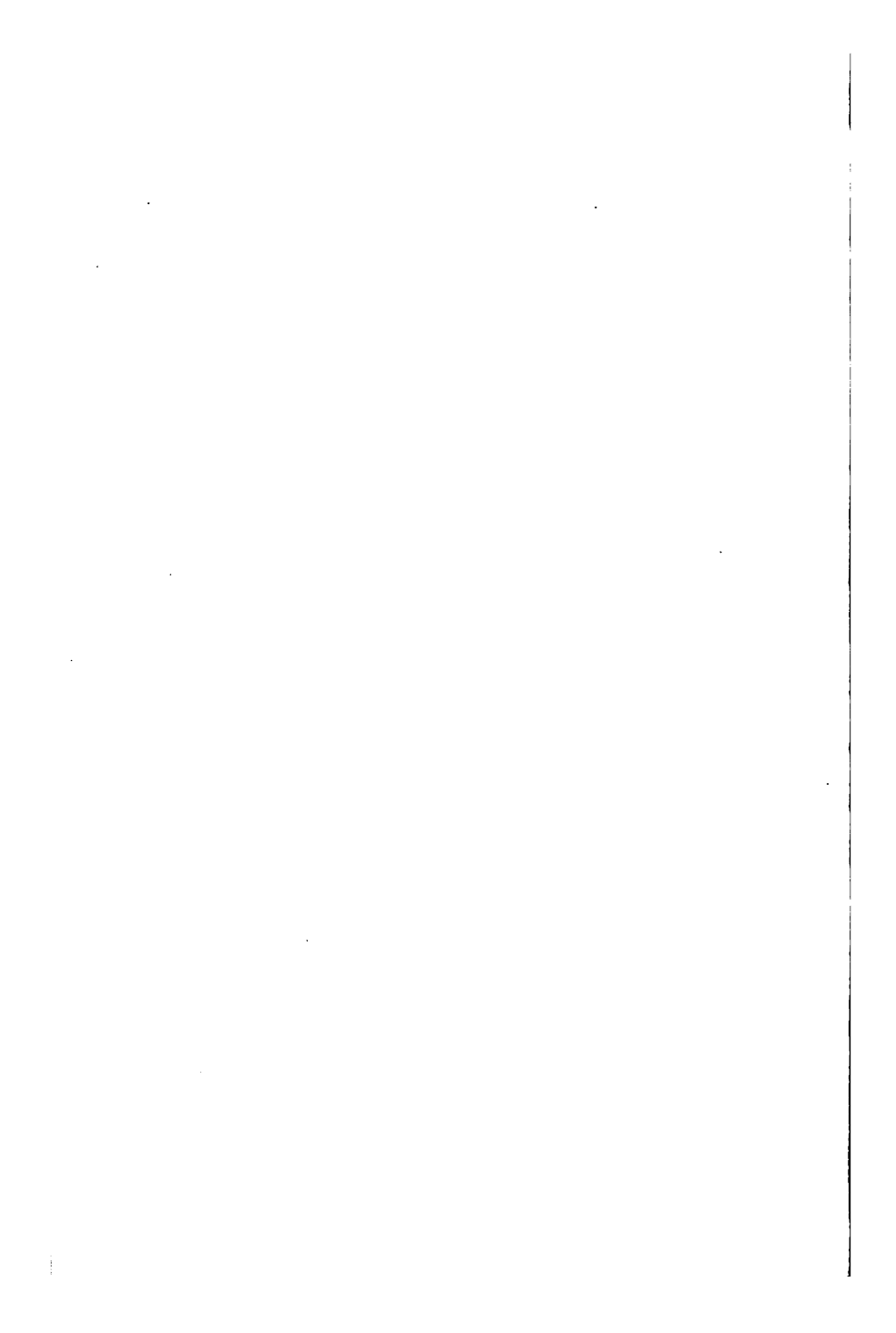
We wandered about here and there, looking with all our eyes. The miners were very busy and silent, but quite friendly, and allowed us to examine as much as we pleased the results of their operations. In the pots and cradles the yellow flake gold glittered plainly, contrasting with the black sand. In the pans, however, the residue spread out fan-shaped along the angle between the bottom and the side, and at the apex the gold lay heavy and beautiful all by itself. The men were generally bearded, tanned with working in this blinding sun, and plastered liberally with the red earth. We saw some queer sights, however; as when we came across a jolly pair dressed in what were the remains of ultra-fashionable garments up to and including plug hats. At one side working some distance from the stream were small groups of native

Californians or Mexicans. They did not trouble to carry the earth all the way to the river, but, after screening it roughly, tossed it into the air above a canvas, thus winnowing out the heavier pay dirt. I thought this must be very disagreeable.

As we wandered about here and there among these men so busily engaged, and with our own eyes saw pan after pan show gold, actual metallic guaranteed gold, such as rings and watches and money are made of, a growing excitement possessed us, the excitement of a small boy with a new and untried gun. We wanted to get at it ourselves. Only we did not know how.

Taken from *Gold*, by Stewart Edward White, published by Doubleday, Page & Company.





# THE KING OF THE POETS

*From The Girl of the Limberlost*

BY

GENE STRATTON-PORTER

*The Girl of the Limberlost* is the story of a student musician earning her education by selling the moths she gathered in the Limberlost. It is a pleasing love story.

The Limberlost is a huge, practically unexplored swamp in northern Indiana, near the home of Gene Stratton-Porter, the author. Here she studied, photographed, and worked, her mother teaching her how to make things grow, her father how to find nests of rarest birds, and haunts of shyest blossoms. Mrs. Porter's earliest writings were articles embodying her own patient, prolonged observations of wild life, in swamp and woodland; she, therefore, knows intimately the life of the forest. She alternates a book of nature, written for love, with "nature studies sugar-coated with fiction."

*For young people.*



## THE KING OF THE POETS

THERE it stood in a bank window in big black letters staring straight at her :

“Wanted: Caterpillars, Cocoons, Chrysalides, Pupæ cases, Butterflies, Moths. Highest scale of prices paid in cash.”

Elnora caught the wicket at the cashier's desk with both hands to brace herself against disappointment.

“Who is it wants to buy cocoons, butterflies, and moths?” she asked.

“The Bird Woman,” answered the cashier. “Have you some for sale?”

“I have some; I do not know if they are what she would want.”

“Well, you had better see her,” said the cashier.

At noon Elnora started to the home of the Bird Woman. She must know about the specimens. She dropped the heavy knocker on the door of the big red log cabin, and her heart thumped at the resounding stroke.

“Is the Bird Woman at home?” she asked of the maid.

“She is at lunch,” was the answer.

"Will you please ask her if she will see a girl from the Limberlost about some moths?" inquired Elnora.

"I need never ask, if it's moths," laughed the girl. "Orders are to bring anyone with specimens right in. Come this way."

Elnora followed down the hall and entered a long room with high panelled wainscoting. At a bare table of oak, yellow as gold, sat a woman Elnora often had watched and followed covertly around the Limberlost. The Bird Woman was holding out a hand of welcome.

"I heard!" she laughed. "A little pasteboard box, or just the bare word 'specimen,' passes you at my door. If it's moths I hope you have hundreds. I've been very busy all summer and unable to collect, and I need so many. From the Limberlost, did you say?"

"I live near the swamp," replied Elnora.

"What have you collected?" asked the Bird Woman.

"I am afraid I am bothering you for nothing, and imposing on you," she said. "That 'collected' frightens me. I've only gathered. I always loved everything outdoors, and so I made friends and playmates of them. When I learned that moths die so soon, I saved them especially, because there seemed no wickedness in it."

"I have thought the same thing," said the Bird Woman encouragingly and asked Elnora if she knew what she had.

"Not all of them. There are some books I studied and I tried to take moths right, but I am afraid they are not what you want."

"Are they the big ones that fly mostly June nights?" asked the Bird Woman.

"Yes," said Elnora, "great gray ones with reddish markings, pale blue-green, yellow with lavender, and red and yellow."

"What do you mean by red and yellow?" so quickly that the girl almost jumped.

"Not exactly red. A reddish, yellowish brown, with canary-coloured spots and gray lines on their wings."

"How many of them?"

"Well, I had over two hundred eggs," said Elnora, "but some of them didn't hatch, and some of the caterpillars died, but there must be at least a hundred perfect ones."

"Perfect! How perfect?"

"I mean whole wings, no down gone, and all their legs and antennæ," faltered Elnora.

"Young woman, that's the rarest moth in America," said the Bird Woman solemnly. "If you have a hundred of them, they are worth a hundred dollars according to my list. I can use all

that are whole. You come here at four, and we will drive out with some specimen boxes and see what you have to sell. Are you free to part with them?"

"They are mine," said Elnora. "No one but God knows that I have them. I know that most of them are all right, and oh, I do need the money!"

"Yes," said the Bird Woman, "I will buy them, also the big moth caterpillars that are creeping everywhere now, and the cocoons that they spin just about this time. I will pay good prices for all the moths you can find, because you see I exchange them with foreign collectors. I want a complete series of the moths of America to trade with a German scientist, another with a man in India, and another in Brazil."

After school closed Elnora, seated by the Bird Woman, drove to the Limberlost. One at a time the beautiful big moths were taken from the interior of the old black box. Not a fourth of them could be moved that night, and it was almost dark when the last box was closed, the list figured, and into Elnora's trembling fingers were paid fifty-nine dollars and sixteen cents.

"Oh you beautiful stuff!" she cried. "You are going to buy books, pay tuition, and take me to high school."

\* \* \* \* \*

She studied two hours and was several lessons ahead of her class. There was no use to go further. She would take a walk and see if she could gather any caterpillars or find any fresh spun cocoons. Almost the first thorn bush she examined yielded a Polyphemus cocoon. She reached the swamp before she knew it, carrying five fine cocoons of different species as her reward, and she came face to face with Pete Corson.

"What luck!" she cried. "I promised mother I would not go inside the swamp alone, and will you look at the cocoons I've found? There are more just screaming for me to come get them, because the leaves will fall with the first frost, and then the jays and crows will begin to tear them open. You will go with me, Pete! Please say yes! Just a little way!"

"What are those things?" asked the man.

"They are the cases these big caterpillars spin for winter, and in the spring they come out great night moths, and I can sell them. Oh, Pete, I can sell them for enough to take me through high school, and dress me, and if I have good luck I can save some for college. Pete, please go with me? You know I have been gathering moths. Lately I found I could sell them. If I can make a complete collection, I can get three hundred dollars for it."

"Can every kind be found here?"

"No, not all of them, but when I get more than I need of one kind, I can trade them with collectors farther north and west, so I complete sets. It's the only way I see to earn money. Look what I have already. Big gray Cecropias come from this kind; brown Polyphemus from that, and green Lunas from these."

"Yes, I'll take care of you," promised Pete Corson, rough and wild, but she had never been afraid of him.

She plunged fearlessly through bushes, over underbrush, and across dead logs. One minute she was crying wildly that here was a big one; the next she was reaching for a limb above her head, or on her knees overturning dead leaves under a hickory or oak tree, or pushing aside black muck with her bare hands as she searched for the hidden pupæ cases. For the first hour Pete bent back bushes and followed, carrying what Elnora discovered. Then he found one.

"Is this the kind of thing you are looking for?" he asked, bashfully, as he presented a wild cherry twig.

"Oh, Pete, that's a Promethea! I didn't even hope to find one."

"What's the bird like?" asked Pete.

"Almost black wings, with clay-colour edges, and the most wonderful wine-coloured flush over

the under side if it's a male, and stronger wine above and below if it's a female. Oh, aren't I happy!"

Pete examined the cocoons Elnora had found. He questioned her as to what other kinds would be like. He began to use the eyes of a trained woodman and hunter in her behalf. He saw several so easily, and moved through the forest so softly, that Elnora forgot the moths in watching him. He was making trips of investigation to see which was a cocoon and which a curled leaf, or he was down on his knees digging around the stumps. As he worked he kept asking questions. What kind of logs were best to look beside, what trees were the pupæ cases most likely to be under; on what bushes did caterpillars spin most frequently?

"Now go cautiously!" she said. "I am just sure we will find an *Imperialis* here. It's their very kind of a place. There! What did I tell you! Isn't that splendid? Oh, I am so glad that you came with me! Come on, Pete, it's getting dark now, and we must go."

\* \* \* \* \*

Early June was rioting in fresh grasses, bright flowers, bird songs, and gay-winged creatures of the air. Down the footpath went Elnora and her mother through the perfect morning, the love of

God and all nature in their hearts. At last they reached the creek! Here Mrs. Comstock found a large bed of tender dandelions and stopped to fill her pail. Elnora crossed the creek, following it up to a bridge. There she began a careful examination of the under sides of the sleepers and the flooring for cocoons.

Around the bend came a fisherman. Elnora was under the bridge, one knee planted in the embankment and a foot braced to support her, working to loosen a cocoon she had found. She looked around at the sound. "Possibly I could get that for you," suggested the man.

"Oh, I do hope you can!" answered Elnora. "It's quite a find! It's one of those lovely pale red cocoons described in the books. I suspect it comes from having been in a dark place and screened from the weather."

"Is that so?" cried the man. "Wait a minute. I've never seen one. I suppose it's a *Cecropia*, from the location."

"Of course," said Elnora. "It's so cool here the moth hasn't emerged. The cocoon is a big, baggy one, and it is as red as a fox tail."

He reeled in his line, laid his rod across a bush and climbed the embankment to Elnora's side, produced a knife and began the work of whittling a deep groove around the cocoon.

"What luck!" he cried. "Are you making a collection?"

"Yes. I paid my way through the high school with them. Now I am starting a collection which means college."

He paused to rest, for the bridge flooring was hard lumber, and the task he had set himself not easy.

"I've been having typhoid fever something fierce. In the hospital six weeks. Didn't gain strength right, so Uncle Doc sent for me. I am to live outdoors all summer. But with interesting outdoor work I'll be myself in a week. My name is Philip Ammon."

"Do you call that work?" Elnora indicated the creek.

"I do indeed! Nearly three miles, banks too soft to brag on, and never a strike. Wouldn't you call that hard labor?"

"Well, if you only want exercise, go right on fishing. You can get a creel full of invisible results every night."

"I object," said the man emphatically. "When I work I want to see results." He dug the groove around the cocoon with skilled hand. "Now there is some fun in this. It's going to be a fair job to cut this out, but when it comes, it is not only beautiful, but worth a price. I think I'll put up that rod and hunt moths. Don't you want help?"

"Have you ever hunted moths, Mr. Ammon?"



"Enough to know the ropes in taking them, and to distinguish the commonest ones. I know enough to help you all right. You better say 'yes,'" he persisted. "It would be a real kindness. I can 'sugar,' manipulate lights, and mirrors, and all the expert methods. I'll wager moths are thick in the old swamp over there."

The cocoon came loose. Presently they came down the creek, the man carrying the cocoon as if it were a jewel.

"Mother, this is Mr. Philip Ammon. He came fishing down the creek and cut this cocoon from under the bridge for me. He feels that it would be better to hunt moths than fish, until he gets well. What do you think about it?"

"You may take hand-shaking for granted," replied Mrs. Comstock, "dandelions have a way of making the fingers sticky, and I like to know a man before I take his hand, anyway. I am sorry to hear that you have been sick. You seem a little wobbly on your legs. Maybe you had better sit and rest while I finish these greens."

"May I have a leaf?" asked Ammon reaching for one as he sat on the bank. He drew a deep breath. "Glory, but this is good after almost two months inside hospital walls!"

"Do you suppose this is the kind of grass Nebuchadnezzar ate?" Elnora asked, giving the leaf.

"You should taste dandelions boiled with bacon and accompanied by mother's especial brand of corn-bread."

"Don't! My appetite is twice my size now."

The man lay in perfect content, nibbling leaves.

"This surely is a treat," he said. "No wonder you find good hunting here. There seems to be foliage for almost every kind of caterpillar. What authorities have you?"

Elnora began to name the text-books which started the discussion. Mrs. Comstock listened. She liked the things he said, and was proud that Elnora had a ready answer which always seemed appropriate. At last she finished the greens.

"You are three miles from the city. I suspect you had better go home with us and rest until the cool of the day before you start back."

The girl carried the cocoon and the box of moths she had taken, searching every step for more. They talked of flowers, moths, dragon flies, Indian relics, and all the natural wonders the swamp afforded, straying from those subjects to books and school work. When they finally cleared the supper table Ammon assisted, carrying several tray loads to the kitchen. Then he and Elnora mounted specimens.

"May I come to-morrow afternoon and chase moths awhile?" he asked Mrs. Comstock as he

arose. "We will 'sugar' a tree and put a light by it, if I can get the stuff to make the preparation. Possibly we can take some that way. Please say I may come."

"I have no objections, if Elnora really would like help," said Mrs. Comstock.

\* \* \* \* \*

The next day Ammon came whistling down the walk. He carried several packages. He began unwrapping packages and explaining to Mrs. Comstock how to cook the compound to attract the moths. He followed her into the kitchen, kindled the fire, and stirred the preparation as he talked. Then they set out, Ammon carrying the dope, Elnora and Mrs. Comstock following with cyanide boxes and lanterns.

First they tried for butterflies and captured several fine ones. They also called swarms of ants, bees, and flies. When it grew dusk they lighted the lanterns, repainted the trees and followed the home trail.

\* \* \* \* \*

It was just sunrise. Mrs. Comstock and Elnora were finishing breakfast when they heard a cheery whistle down the road.

"I hope I am not too early," Philip said. "I am consumed with anxiety to learn if we have

made a catch. If we have, we should beat the birds to it. Let's hurry! I am afraid of the crows. There might be a rare moth."

The sun was topping the Limberlost when they started. As they neared the place Ammon stopped.

"Now we must use great caution. The lights and the odours always attract numbers that don't settle on the baited trees. Every bush, shrub, and limb may hide a specimen we want."

So they approached with much care.

"There is something, anyway!" cried Ammon, who was leading the way.

"There are moths! I can see them!" exulted Elnora.

"Those you see are fast enough. It's the ones for which you must search that will get away. The grasses are dripping, and I have boots, so you look along the path while I take the outside," suggested Ammon.

Back in the deep woods a hermit thrush was singing his chant to the rising sun. Orioles were sowing the pure, sweet air with notes of gold, poured out while on the wing. Scolding red-wings tilted on the bushes. Elnora uttered the first cry, as she softly lifted branches and peered among the grasses.

"My find!" she called. "Bring the box, mother!"

Ammon came hurrying also. On the hand she held out to them clung a pair of delicate blue-green moths, with white bodies, and touches of lavender and straw colour. He picked the box from Mrs. Comstock's fingers, and slowly advanced with it. Elnora held down her hand and transferred the moths.

Mrs. Comstock started down the path toward her log again, and as she reached it she called sharply, "Elnora, come here! I believe I have found something myself."

The "something" was a *Citheronia Regalis* which had just emerged from its case on the soft earth by the log. It climbed up the wood, its stout legs dragging a big pousy body, while it wildly flapped tiny wings the size of a man's thumb-nail. Elnora gave one look and a cry, which brought Ammon.

"That's the rarest moth in America!" he announced. "Mrs. Comstock, you've gone up head. You can put that in a box screen to-night, and attract a half-dozen, possibly."

"Is it rare, Elnora?" inquired Mrs. Comstock, as if no one else knew.

"It surely is," answered Elnora. "If we can find it a mate to-night, it will lay from two hundred and fifty to three hundred eggs to-morrow. With any luck at all I can raise two hundred caterpillars from them. I did once. And they are worth a dollar

apiece. The Bird Woman calls this the King of the Poets."

"Why does she?"

"Because it is named for Citheron who was a poet, and regalis refers to king. You watch and don't let that moth out of sight, or anything come near it. You mustn't touch it or you may stunt wing development. When the wings are expanded and hardened we will put it in a box."

"I am afraid it will race itself to death," objected Mrs. Comstock.

"That's a part of the game," said Ammon. "It is starting circulation now. When the right moment comes, it will stop and develop its wings. If you watch closely you can see them expand."

Presently the moth found a rough projection of bark and clung with its feet, back down, its wings hanging. The body was an unusual orange red, the tiny wings were gray, striped with red and splotted here and there with markings of canary yellow. Mrs. Comstock watched breathlessly. Presently she slipped off the log and knelt to get a better view.

"Are its wings growing?" called Elnora.

"They are getting larger and the markings coming stronger every minute."

"Let's watch, too," said Elnora.

They came and looked over Mrs. Comstock's shoulder. Lower dropped the gay wings, wider they spread, brighter grew the markings as if laid off in geometrical patterns. They could hear Mrs. Comstock's tense breath and see her absorbed expression.

"Young people," she said solemnly, "if your studying science and the elements has ever led you to feel that things just happen, kind of evolve by chance, as it were, this sight will be good for you. Maybe earth and air accumulate, but it takes the wisdom of the Almighty God to devise the wing of a moth. If ever there was a miracle, this whole process is one. Now, as I understand it, this creature is going to keep on spreading those wings, until they grow to size and harden to strength sufficient to bear its body. Then it flies away, mates with its kind, lays its eggs on the leaves of a certain tree, and the eggs hatch caterpillars which eat just that kind of leaves, and the worms grow and grow, and take on different forms and colours until at last they are big caterpillars six inches long, with large horns. Then they burrow into the earth, build a house around themselves from the material which is inside them, and lie through rain and freezing cold for months. A year from egg laying they come out like this, and begin the process all over again. They don't eat, they don't see

distinctly, they live but a few days, and fly only at night; then they drop off easy, but the process goes on."

A shivering movement went over the moth. The wings drooped and spread wider. It climbed to the end of the projection, up it a little way, then suddenly reversed its wings, turning the hidden sides out and dropping them along its abdomen, like a great fly. The outside of the wings, thus exposed, was far richer colour, more exquisite texture than the under, and they slowly lifted and drooped again. The moth spread its wings, shivered them tremulously, opening and closing them rapidly. Ammon handed the box to Elnora. She shook her head.

"I can't take this one," she said. "Let her go."

"But, Elnora," protested Mrs. Comstock, "I don't want to let her go. She's mine. She's the first one I ever found this way. Can't you put her in a big box, and let her live without hurting her? I can't bear to let her go. I want to learn all about her."

"Then watch her while we get these on the trees," said Elnora. "We will take her home. She won't fly for a long time yet."

Mrs. Comstock settled on the ground, an elbow on her knee, her chin in her palm, gazing at the moth. Elnora and Ammon went to the baited



trees, placing several large moths and a number of smaller ones in the cyanide jar, and searching the bushes beyond they found several paired specimens of different families. When they returned Elnora showed her mother how to hold her hand before the moth so that it would climb upon her fingers. Then they started home, Mrs. Comstock stepping with great care lest she stumble and jar the moth. Her face wore a look of comprehension, in her eyes was an exalted light.

A turtle scrambled from a log and splashed into the water, while a red-wing shouted, "O-ka-lee!" to her.

Taken from *A Girl of the Limberlost*, by Gene Stratton-Porter, published by Doubleday, Page & Company.



# HEMP

*From The Reign of Law*

BY

JAMES LANE ALLEN

We have taken the Preface right out of James Lane Allen's story, *The Reign of Law*, by his consent. As he was himself a farmer, sowing the seed, cultivating the soil, and harvesting the crops, he knows just how hemp is grown, and about its uses. Better yet he knows how to describe it beautifully. He was a student, and became a professor of ancient languages. Now he is a man of letters, who delights particularly to write about the people and beauties of his native state, Kentucky. In this story he tells of a spiritual rebirth after religious doubts.

*For adults.*



## HEMP

HEMP in Kentucky in 1782 — early landmark in the history of the soil, of the people. Cultivated first for the needs of the cabin and clearing solely ; for twine and rope, towel and table, sheet and shirt. By and by not for cabin and clearing only ; not for tow-homespun, fur-clad Kentucky alone. To the north had begun the building of ships, American ships for American commerce, for American arms, for a nation which Nature had herself created and had distinguished as a sea-faring race. The south had begun the raising of cotton. As the great period of shipbuilding went on — greatest during the twenty years or more ending in 1860 ; as the great period of cotton-raising and cotton-baling went on — never so great as in that same year — the two parts of the nation looked equally to the one border plateau lying between them, to several counties of Kentucky, for most of the nation's hemp.

The record stands that throughout the one hundred and twenty-five odd years elapsing from the entrance of the Anglo-Saxon farmers into the wilderness down to the present time, a few counties of Kentucky

have furnished army and navy, the entire country, with all but a small part of the native hemp consumed.

Some morning when the roar of March winds is no more heard in the tossing woods, but along still brown boughs a faint, veil-like greenness runs; when every spring, welling out of the soaked earth, trickles through banks of sod unbarred by ice; before a bee is abroad under the calling sky; before the red of apple-buds becomes a sign in the low orchards, or the high song of the thrush is pouring forth far away at wet pale-green sunsets, the sower, the earliest sower of the hemp, goes forth into the fields.

Warm they must be, soft and warm, those fields, its chosen birthplace. Upturned by the plough, crossed and recrossed by the harrow, clodless, levelled, deep, fine, fertile —. Back and forth with measured tread, with measured distance, broadcast the sower sows, scattering with plenteous hand those small oval-shaped fruits, gray-green, black-striped, heavily packed with living marrow.

Lightly covered over by drag or harrow, under the rolled earth now they lie, those mighty, those inert seeds. Down into the darkness about them the sun rays penetrate day by day, stroking them with the brushes of light, prodding them with spears of flame. Drops of nightly dews, drops from the coursing clouds, trickle down to them, moistening the

dryness, closing up the little hollows of the ground, drawing the particles of maternal earth more closely. Suddenly — as an insect that has been feigning death cautiously unrolls itself and starts into action — in each seed the great miracle of life begins. Each awakens as from a sleep, as from pretended death. It starts, it moves, it bursts its ashen woody shell, it takes two opposite courses, the white, fibril-tapered root hurrying away from the sun; the tiny stem, bearing its lance-like leaves, ascending graceful, brave like a palm.

Some morning, not many days later, the farmer, walking out into his barn lot and casting a look in the direction of his field, sees — or does he not see — ? the surface of it less dark. What is that uncertain flush low on the ground, that irresistible rush of multitudinous green? A fortnight, and the field is brown no longer. Overflowing it, burying it out of sight, is the shallow tidal sea of the hemp, ever rippling. As the eye sweeps the whole landscape undulating far and near, from the hues of tree, pasture, and corn of every kind, it turns to the color of the hemp. With that in view, all other shades count for nothing. Far reflected, conspicuous, brilliant, strange; masses of living emerald, saturated with blazing sunlight.

Darker, always darker turns the hemp as it rushes upward: scarce darker as to the stemless stalks

which are hidden now; but darker in the tops. Yet here two shades of greenness: the male plants paler, smaller, maturing earlier, dying first; the females darker, taller, living longer, more luxuriant of foliage and flowering heads.

A hundred days from the sowing, and those flowering heads have come forth with their mass of leaves and bloom and earliest fruits, elastic, swaying six, ten, twelve feet from the ground and ripe for cutting. A hundred days reckoning from the last of March or the last of April, so that it is July, it is August. And now, borne far through the steaming air floats an odor, balsamic, startling: the odor of those plumes and stalks and blossoms from which is exuding freely the narcotic resin of the great nettle.

Who apparently could number the acres of these in the days by? A land of hemp, ready for the cutting! everywhere the impenetrable thickets of the hemp.

Impenetrable! For close together stand the stalks, making common cause for soil and light, each but one of many, the fibre being better when so grown — as is also the fibre of men. Impenetrable and therefore weedless; for no plant life can flourish there, nor animal nor bird. Scarce a beetle runs bewilderingly through those forbidding colossal solitudes. The field-sparrow will flutter

away from the pollen-receiving top, trying to beguile you from its nest hidden near the edge. The crow and the blackbird will seem to love it, having a keen eye for the cutworm, its only enemy. The quail does love it, not for itself, but for its protection, leading her brood into its labyrinths out of the dusty road when danger draws near. Best of all winged creatures it is loved by the iris-eyed, burnish-breasted, murmuring doves, already beginning to gather in the deadened tree-tops with crops eager for the seed. Best of all wild things whose safety lies not in the wing but in the foot, it is loved by the hare for its young, for refuge. Those lithe, velvety, summer-thin bodies! Observe carefully the tops of the still hemp: are they shaken? Among the bases of those stalks a cotton-tail is threading its way inward beyond reach of its pursuer. Are they shaken violently, parted clean and wide to right and left? It is the path of the dog following the hot scent — ever baffled.

A hundred days to lift out of those tiny seeds these powerful stalks, hollow, hairy, covered with their rough fibre, — that strength of cables when the big ships are tugged at by the fury of wind and ocean. And now some morning at the corner of the field stand the black men with hooks and whetstones. The hook, a keen, straight blade, bent at

right angles to the handle two feet from the hand. Let these men be the strongest; no weakling can handle the hemp from seed to seed again. The leader strides to the edge, and throwing forward his left arm, along which the muscles play, he grasps as much as it will embrace, bends the stalk over, and with his right hand draws the blade through them an inch or more from the ground. When he has gathered his armful, he turns and flings it down behind him, so that it lies spread out, covering when fallen the same space it filled when standing. And so he crosses the broad acres, and so each of the big black followers, stepping one by one to a place behind him, until the long, whitish green swaths of the prostrate hemp lie shimmering across the fields. Strongest now is the smell of it, impregnating the clothing of the men, spreading far throughout the air.

So it lies a week or more drying, dying, till the sap is out of the stalks, till the leaves and blossoms and earliest ripened or unripened fruits wither and drop off, giving back to the soil the nourishment they have drawn from it; the whole top being thus otherwise wasted — that part of the hemp which every year the dreamy millions of the Orient still consume in quantities beyond human computation, and for the love of which the very history of this plant is lost in the antiquity of India and

Persia, its home — land of narcotics and desires and dreams.

Then the rakers with enormous wooden rakes; they draw the stalks into bundles, tying each with the hemp itself. Following the binders, move the wagon-beds or slides, gathering the bundles and carrying them to where, huge, flat and round, the stacks begin to rise. At last these are well built; the gates of the field are closed or the bars put up; wagons and laborers are gone; the brown fields stand deserted.

One day something is gone from earth and sky: Autumn has come, season of scales and balances, when the Earth, brought to judgment for its fruits, says, "I have done what I could — now let me rest!"

But of all that the earth has yielded with or without the farmer's help, of all that he can call his own within the limits of his land, nothing pleases him better than those still, brown fields where the shapely stacks stand amid the deadened trees. Two months have passed, the workmen are at it again. The stacks are torn down, the bundles scattered, the hemp spread out as once before. There to lie till it shall be dew-retted or rotted; there to suffer freeze and thaw, chill rains, locking frosts and loosening snows — until the gums holding together the filaments of the fibre rot out and



dissolve, until the bast be separated from the woody portion of the stalk, and the stalk itself be decayed and easily broken.

Some day you walk across the spread hemp, your foot goes through at each step, you stoop, and taking several stalks, snap them readily in your fingers. The ends stick clean apart; and lo! hanging between them, there it is at last — a festoon of wet, coarse, dark gray riband, wealth of the hemp, sail of the wild Scythian centuries before Horace ever sang of him, sail of the Roman, dress of the Saxon and Celt, dress of the Kentucky pioneer.

The rakers reappear at intervals of dry weather, and draw the hemp into armfuls and set it up in shocks of convenient size, wide flared at the bottom, well pressed in and bound at the top, so that the slanting sides may catch the drying sun and the sturdy base resist the strong winds. And now the fields are as the dark brown camps of armies — each shock a soldier's tent. Yet not dark always; at times snow-covered; and then the white tents gleam for miles in the winter sunshine — the snow-white tents of the camping hemp.

Throughout the winter and on into the early spring, as days may be warm or the hemp dry, the breaking continues. At each nightfall, cleaned and baled, it is hauled on wagon-beds or slides to

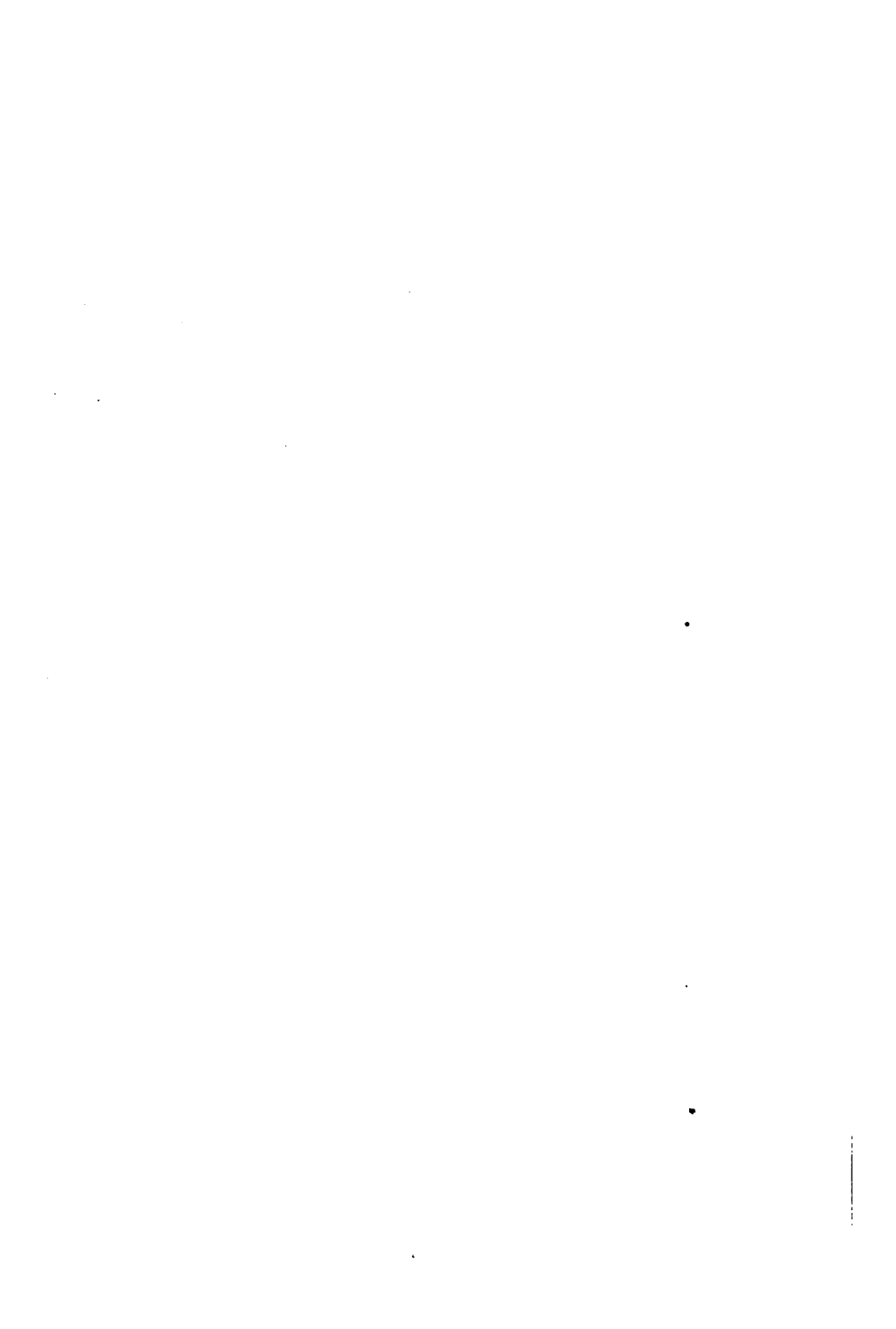
the barns or the hemp-houses, where it is weighed for the work and wages of the day.

Last of all, the brakes having been taken from the fields, some night — dear sport for the lads! — takes place the burning of the “hempherds,” thus returning their elements to the soil. To kindle a handful of tow and fling it as a firebrand into one of those masses of tinder; to see the flames and the sparks rush like swarms of red bees skyward through the smoke into the awful abysses of the night; to run from gray heap to gray heap, igniting the long line of signal fires, until the whole earth seems a conflagration and the heavens are as rosy as at morn; to look far away and descry on the horizon an array of answering lights; not in one direction only, but leagues away, to see the fainter, ever fainter glow of burning hempherds — this, too, is one of the experiences, one of the memories.

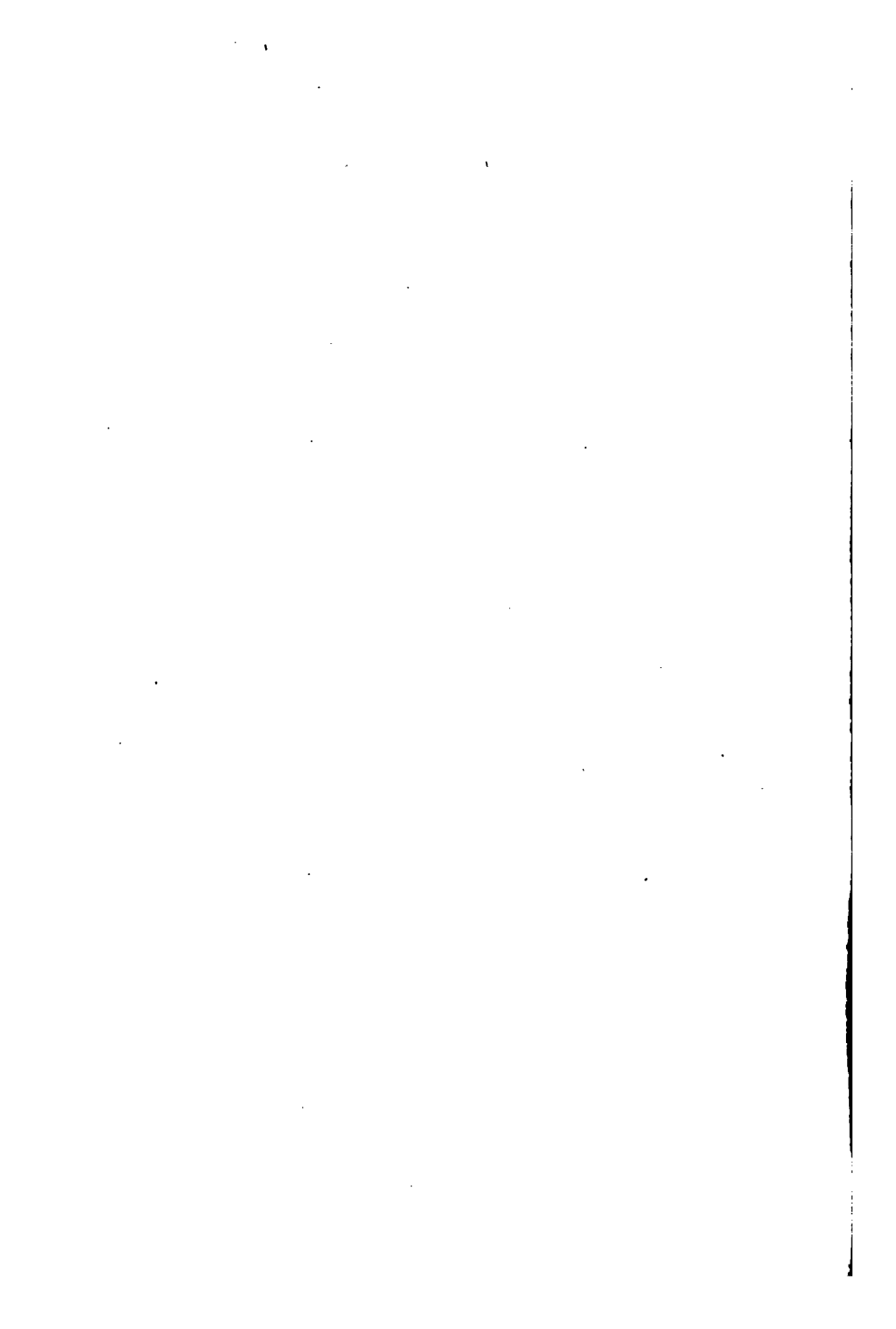
And now along the turnpikes the great loaded creaking wagons pass slowly to the towns, bearing the hemp to the factories, thence to be scattered over land and sea. Some day, when the winds of March are dying down, the sower enters the field and begins where he began twelve months before.

A round year of the earth's changes enters into the creation of the hemp.

Taken from *The Reign of Law*, by James Lane Allen, published by The Macmillan Company.







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